

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MARNAVI, SPA. as agent for JILMAR SHIPPING
S.A.,

Petitioner,

vs.

ADVANCED POLYMER SCIENCES, INC.

Respondent.

Civil Action No. ____

**AFFIDAVIT OF GEORGE LUGG
IN SUPPORT OF PETITION TO
CONFIRM FOREIGN ARBITRAL
AWARD**

**AFFIDAVIT OF GEORGE LUGG IN SUPPORT OF
PETITION TO CONFIRM FOREIGN ARBITRATION AWARD**

GEORGE LUGG, being duly sworn, deposes and says:

1. I am over eighteen years of age.
2. I am competent to make this affidavit, which is based on my own personal knowledge and upon information and documents that I believe to be true and accurate.
3. I submit this affidavit in support of Petitioner Marnavi Spa's ("Marnavi") Petition to Confirm Foreign Arbitral Award, dated June 24, 2008, issued in favor of Jilmar Shipping S.A. ("Jilmar", and together with Marnavi, the "Owners") (the "Petition"), and brought by Marnavi as agent for Jilmar.
4. I was formerly associated with the firm of Casebourne Leach & Co., a marine surveying company located at 1 Whites Row, London E1 7NF, England.
5. In July 28 1997, Marnavi, acting on behalf of the Jilmar, as shipowner; Advanced Polymer Sciences, Inc., as contractor ("APS"), Guaranteed Advanced Tank Technology, as contractor ("GATT") and Cantiere Naval SEC ("Cantiere", together with APS and GATT, the "APS Group") entered into a written contract with respect to the vessel M/V Joran (the "Joran"). A true and correct copy of the "Agreement to Qualify With IMO the APS

Marine Line Coating as Suitable Barrier to Carry IMO II-III Mineral Acid Products on Mild Steel Cargo Tanks” (the “Agreement”) is annexed as **Exhibit A**.

A. The Appointment of the Arbitrator

6. Section I of the Agreement, entitled “**Disputes**”, has an arbitration provision that provides as follows:

Any dispute arising between the parties as to the performance of any portion of this Agreement which cannot be amicably settled by the parties shall be referred to arbitration in London.

7. The Agreement provides for arbitration before an ad hoc arbitral tribunal instead of an arbitration association or body.

8. The Owners alleged in the Points of Claim that APS Group had breached their obligations to the Owners under the Agreement, that the Siloxirane coating was defective, that the Joran had been damaged because of the failure to the coating, and that the Owners were entitled to damages as a result.

9. The Owners subsequently selected me to serve as an arbitrator of the dispute pursuant to both the Agreement, section I, and also The Arbitration Act, 1996 (the “TAA”), which governs arbitrations in England and Wales. A true and correct copy of provisions of the TAA concerning the commencement of arbitration actions is attached hereto as **Exhibit B**.

10. The APS Group were notified of my appointment as an arbitrator.

11. Notwithstanding notice of my appointment, no member of the APS Group chose a second arbitrator or agreed to the my appointment as sole arbitrator, as provided in the TAA. *Id* §§ 14-17.

12. As a result, and as provided for in the TAA, *id* § 18, Marnavi, as agent for Jilmar, applied to the High Court of Justice, Queens Bench Division for the appointment of an arbitrator to resolve all disputes among the parties.

13. On June 15, 2001, High Court Justice Langley, sitting in the Commercial Court of the Queen's Bench Division of the English High Court of Justice (the "English High Court"), issued an order appointing me sole arbitrator, which appointment was duly authorized under the TAA. A true and correct copy of the Court Order appointing me as sole arbitrator is attached hereto as **Exhibit C**.

B. Arbitration Proceedings Commence.

14. I gave written and timely notice to each member of the APS Group of my appointment as Arbitrator, and I invited each member of the APS Group to make submissions in response to the Owners' Points of Claim. Cantiere did not respond to my requests.

15. In response to my notice, APS directly notified me that GATT was no longer in business. See Facsimile Transmission from Denise Keehan to George Lugg, dated September 18, 2001, a true and correct copy of which is attached hereto as **Exhibit D**. The following day Ms. Keehan sent me a facsimile transmission requesting that I send to her the Owners' Points of Claim. A true and correct copy of this facsimile transmission is attached hereto as **Exhibit E**.

C. The Arbitration Awards.

16. Prior to the determination of liability and the quantum of damages, APS and the Owners requested that I issue an interim award to determine my jurisdiction to arbitrate the dispute between the Owners and Respondents.

17. Through their counsel, APS and GATT submitted their statement of defense on October 2, 2001. *See* Letter from John M. Manos to George Lugg, dated October 2, 2001, a true and correct copy of which is attached as **Exhibit F**.

18. On July 15, 2002, I issued a written, interim award finding, *inter alia*, that the Agreement was valid, remained in force and was binding upon the Owners and the APS Group. I further found that the dispute fell within the scope of the Arbitration Clause and that I had jurisdiction to arbitrate "all disputes between the parties arising out of the contract for the coating of the cargo tanks of the m.v. [sic] 'JORAN' by the Contractors". Interim Arbitration Award, dated July 15, 2002 (the "First Award"). A true and correct copy of the First Award is annexed hereto as **Exhibit G**.

D. The Second Interim Award

19. After the publication of the First Award, the Owners asked me to decide whether the APS Group was liable for the failure of the Siloxirane coating.

20. In spite of several invitations from me to make submissions on the question of liability, no member of the APS Group made any further submissions to me on the question of liability. *See* Facsimile Transmissions from George Lugg to John M. Manos dated July 30, 2002; September 2, 2002 and October 18, 2002, true and correct copies of which are attached as **Exhibit H**.

21. To the contrary, Mr. Manos specifically informed me that APS had "for all intents and purposes ceased to trade" and that Mr. Manos had been directed to discontinue his involvement with this matter. *See* Letter from John M. Manos to George Lugg, dated October 18, 2002, a true and correct copy of which is attached as **Exhibit I**.

22. As a result of Mr. Manos' communication to me, I subsequently sent an additional invitation to Ms. Denise Keehan, the Vice President of APS, directing APS and GATT

to make further submissions on the question of liability. *See* Facsimile transmission from George Lugg to Denise Keehan, dated October 21, 2002, a true and correct copy of which is attached as **Exhibit J**.

23. Notwithstanding my communications to the members of the APS Group, I received no further submissions from them. Thus, I made my determination as to liability based on documentation previously submitted by the APS Group and additional documentary evidence produced by the Owners.

24. On February 4, 2003, I issued the Second Award in which I found the APS Group jointly and severally liable for breach of the Agreement. *See* Interim Final Arbitration Award and Reasons for and Forming Part of the Interim Final Award on Liability (the "Second Award"), dated February 4, 2003. A true and correct copy of the Second Award is annexed hereto as **Exhibit K**.

25. In the Second Award I concluded that:

- (a) there was "no dispute" that the Siloxirane coating had failed;
- (b) the Siloxirane coating failed because of it was "inadequate", and not due to any acts of the Owners;
- (c) Cantiere, not the Owners, were responsible for the supervision of work done on the Joran; and
- (d) all possible causes of failure were the responsibility of the Contractors, not the Owners, and that the Owners had not breached the Agreement.

E. The Final Arbitration Award

26. After my determination of liability the Owners requested that I determine the quantum of damages.

27. In response, I once again gave repeated notice, over a period of 20 months, to each member of the APS Group requesting that they make submissions on the question of damages. *See* Facsimile Transmissions from George Lugg to APS and GATT, dated February 26, 2004; April 1, 2004; June 28, 2004; September 13, 2004; September 30, 2004; October 19, 2005 and November 1, 2005, true and correct copies of which are attached hereto as **Exhibit L**.

28. In response, the only communication that I received from any member of the APS Group was from Mr. John Manos. In a letter dated June 28, 2004, Mr. Manos informed me that APS had entered into receivership in the court of Common Pleas in Lorrain County, Ohio. *See* Letter from John M. Manos to Mr. George Lugg, dated June 28, 2004 (the "June 28 Letter") and response of George Lugg dated July 1, 2004, true and correct copies of which are attached hereto as **Exhibit M**.

29. On November 11, 2005, I issued a final award on quantum finding APS, GATT and Cantiere jointly and severally liable and awarding the Owners the following:

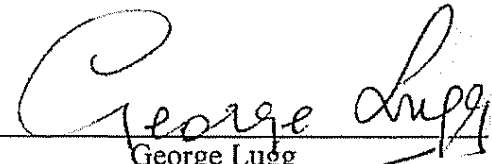
- A. US \$1,800,630.00 for the costs of conversion of the vessel to carry corrosive and toxic cargoes, with interest thereon at the rate of 6.1 % per annum, from April 15, 1998;
- B. US \$892,556.00 for the costs of conversion of the vessel to carry corrosive and toxic cargoes, with interest thereon at the rate of 5.9% per annum, from November 12, 1998;
- C. Italian Lira 144,973,670 for the costs of subsequent repairs following failure of the coating provided and applied by Respondent, with interest thereon at the rate of 5.7% per annum, from July 1999;
- D. DM 331,999.98, plus US \$55,333.33 for damages equivalent to the loss of the hire of the Joran while she was undergoing repair, with interest thereon at the rate of 5.7% per annum, from July 1999;
- E. The Contractors and Owners costs of the reference in full, including my fees Plaintiff and Petitioners' attorneys fees and

expenses with interest thereon at the rate of 6.5% per annum, from November 11, 2005;


G. Interest on all of the above to be compounded at three monthly intervals, from the specified date above until the date of payment of the Arbitration Award.

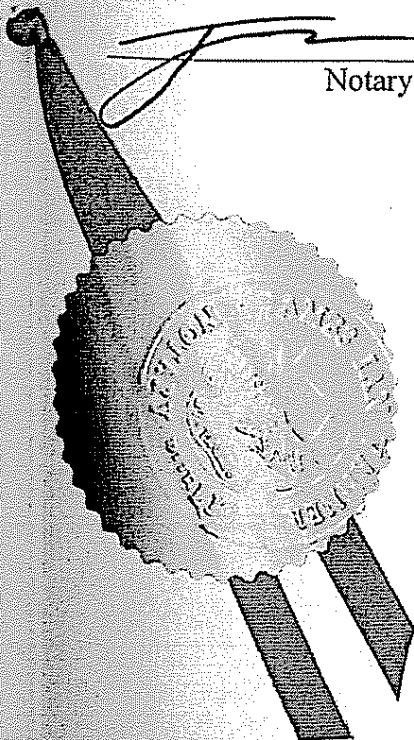
30. See Final Arbitration Award on Quantum and Reasons for and Forming Part of the Arbitrator's Final Award on Quantum, dated November 11, 2005 (the "Third Award" and together with the First Award and Second Award, the "Arbitration Awards"), ¶ 9. A true and correct copy of the Final Award is attached hereto as **Exhibit N**.

31. After the Petitioner paid my fees I sent the Third Award to APS. See Facsimile Transmission from George Lugg to APS, dated November 21, 2005, a true and correct copy of which is attached hereto as **Exhibit O**.


George Lugg

Sworn to before me this 25th day
of June, 2008


Notary Public



APOSTILLE

(Hague Convention of 5 October 1961 / Convention de La Haye du 5 octobre 1961)

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

1. Country: United Kingdom of Great Britain and Northern Ireland
Pays: Royaume-Uni de Grande-Bretagne et d'Irlande du Nord

This public document / Le présent acte public

2. Has been signed by **James Ian Vanner**
a été signé par

3. Acting in the capacity of **Notary Public**
agissant en qualité de

4. Bears the seal/stamp of **The Said Notary Public**
est revêtu du sceau/timbre de

5. at London/à Londres
6. the/le **25 June 2008**

7. by Her Majesty's Principal Secretary of State for Foreign and Commonwealth Affairs /
par le Secrétaire d'Etat Principal de Sa Majesté aux Affaires Etrangères et du Commonwealth.

8. Number/sous No **H826944**

9. Stamp:
timbre:

10. Signature: **R.Bawden**



For the Secretary of State / Pour le Secrétaire d'Etat

If this document is to be used in a country which is not party to the Hague Convention of 5 October 1961, it should be presented to the consular section of the mission representing that country. An apostille or legalisation certificate only confirms that the signature, seal or stamp on the document is genuine. It does not mean that the contents of the document are correct or that the Foreign & Commonwealth Office approves of the contents.

**AGREEMENT TO QUALIFY WITH IMO THE APS MARINE
LINE COATING AS SUITABLE BARRIER TO CARRY IMO II -
III MINERAL ACID PRODUCTS ON MILD STEEL CARGO
TANKS**

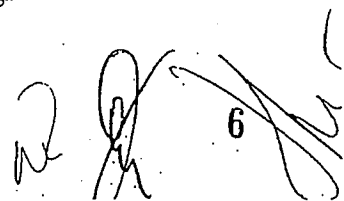
This Agreement is entered into between Guaranteed Advanced tank Technology, Ltd., an Ohio U.S.A., Limited Liability Company and a subsidiary of Advanced Polymer Sciences, Inc. with principal offices in Avon, Ohio, U.S.A. (hereinafter referred to as "GATT-APS") and Cantiere Navale SEC, Società Esercizio Cantieri Group SpA with principal office in Viareggio, Italy (hereinafter referred to as "SEC") and MARNAVI SpA with principal office in Naples, Italy (hereinafter referred to as "MARNAVI").

WITNESSETH

Background Statement :

- a) WHEREAS, GATT-APS sells fully insured protective lining systems for Maritime chemical tankers utilising the patented Siloxirane "MarineLine" technology and
- b) WHEREAS, GATT-APS wishes to have MarineLine coating fully qualified by IMO as suitable barrier against mineral acid IMO II - III when carried into mild steel cargo tanks ship
- c) WHEREAS, SEC is recognised as a specialised shipyard in newbuilding of chemical tankers, and appointed by GATT-APS as exclusive applicator of the MarineLine for the Territory of Italy.
- d) WHEREAS, MARNAVI wishes to obtain for the M/T "JORAN" the permanent approval for carrying corrosive and toxic goods as Phosphoric Acid, Sulphuric Acid, Formic Acid, Phenol, Hydrogen Peroxide up to 24%, Hydrochloric Acid.
- e) WHEREAS, MARNAVI wishes to coat the cargo tanks of M/T "JORAN" with Marine-Line in order to qualify her for the carriage of the above mentioned corrosive and toxic goods under IMO rules.
- f) WHEREAS, MARNAVI wishes to obtain under a good concessive basis from APS and SEC the option to carry out tank coating with Marine Line on two further vessels for a total area of about 80.000 sqm.

NOW, THEREFORE, in consideration of the mutual agreements herein, the parties hereto agree as follows:

 6

A) Ship board application

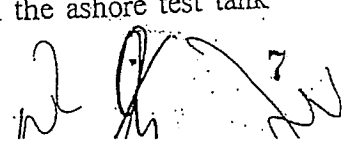
- 1) Marnavi will make available the M/T "JORAN" for cargo tanks coating;
- 2) MARNABI will provide at his own expenses the surface preparation and shot blasting application of the cargo holds to be lined and coated, as per MarineLine technical specification.
- 3) SEC will care for survey of surface preparation and shot blasting applications, bearing the responsibility of the full compliance with the technical specification issued by GATT-APS;
- 4) GATT-APS will supply Marine Line coating as necessary to cover 5000 sq.m. of cargo tanks and it will survey the application works and it will duly carry out the final curing as per lining/coating technical specification.

B) Testing ashore and on board

- 1) SEC will supply a model of suitable size treated with Marine-Line lining/painting.
- 2) Such a tank shall be filled with certain products for testing and recording data and results in order to obtain provisional approval of progressive aggressive cargoes.
- 3) Marnavi will load M/T "JORAN" with the aggressive cargoes according an experimental endorsement issued by the Classification Society and approved by IMO after preliminary successful testing will be carried out as per 2.
- 4) Marnavi will accept the request of Classification Society as far as compartment limitation, Checking before and after loading of any newly approved cargo; installation of devices intended to control ship structures as ph analysers and H2 gas analyser on board.

C) Obligations

- 1) MARNABI at its own care will supply the acid for the ashore testing as per para B2.
- 2) MARNABI will at its own care organise all the meetings among GATT - SEC - MARNABI and Classification Society in order to develop both the procedure for lining system and vessel qualification for the carriage of dangerous goods referred to in e). The other parties will participate and contribute to the meeting with regard to the relevant competence. On this respect GATT-APS will take care of all the relevant documents and data reading and recording both on the ashore test tank



and on board the ship fulfilling the relevant Bodies prescriptions. MARNABI will give assistance when requested in order to complete procedures with Classification Society.

- 3) SEC will take care of the proper storage and preservation of the ashore test tank and will give full assistance to the classification Societies personnel during their inspection as well as to the MARNABI, GATT-APS experts attending the tests.
- 4) GATT-APS will provide on request all technical sheets, documents, and whatever needed for the successful conduction of the tests.
- 5) GATT-APS will supply the Marine-Line coating-lining material within 30 days from the contract entering into force.
- 6) GATT-APS-SEC will complete the entire tank coating within 60 days from the contract in place subject to the full availability of M/T JORAN as per the scheduled work program.
- 7) MARNABI will order its subcontractors to shotblast and treat the surfaces to be lined/coated according to GATT-APS-SEC technical requirements.
- 8) MARNABI will bear the cost of the Classification Society as for the classification of the M/T JORAN.
- 9) GATT-APS will bear the cost of the Classification Society as for the permanent approval of Marine Line tank coating/lining system.
- 10) Although M/T "JORAN" is an IMO II vessel, MARNABI will assist GATT-APS to obtain IMO approval also for IMO I cargoes for ashore testing and paperworks.

D) Price

The entire work price at carè of GATT-APS-SEC is:

USD 155.750 (one hundred and fifty five thousand seven hundred and fifty US dollars), 20.000 of which directly to SEC.

The above will include paint, lining supply and execution and expertise on site.

E) Payment

- 1) Down payment:

Marnabi will pay within 30 days after the contract is in place USD 50.000 to GATT-APS

2) Final payment:

Marnavi will pay the balance to SEC and GATT-APS for the respective due amounts after successful completion of the test campaign and the issuing of the final classification and fitness certificates under IMO Authority by virtue of which the "M/T JORAN" has been recognised as permanently fit for the carriage of IMO II - III mineral acids.

F) Security

MARNAVI will issue within 30 days from the contract a bank guarantee for the amount due as balance final payment for a period of three years renewable and extendible, in favour of SEC - GATT-APS and subject to the successful classification and fitness certificates under E2.

G) General Commitment

MARNAVI-GATT-APS-SEC will fully cooperate and assist each other in order to obtain the M/T JORAN and Marine-Line coating approved and qualified for the purpose of class IMO II-III mineral acids transportation. They will supply all necessary information and make available all relevant needed documents and data for the quickest and best completion of the experiments.

H) Law

This agreement shall be construed in accordance with the laws of England.

I) Disputes

Any dispute arising between the parties as to the performance of any portion of this Agreement which cannot be amicably settled by the parties shall be referred to arbitration in London.

Viareggio, 28 July 1997

For Approval

GATT-APS

Title

MARNAVI

Title TECH. Director

SEC

Title

Addendum to the agreement signed on 28/07/1997 by and between

GATT-APS - SEC - MARNABI

WHEREAS

Guaranteed Advanced tank Technology, Ltd. , an Ohio U.S.A., Limited Liability Company and a subsidiary of Advanced Polymer Sciences, Inc. with principal offices in Avon, Ohio, U.S.A. (hereinafter referred to as "GATT-APS") and Cantiere Navale SEC, Società Esercizio Cantieri Group SpA with principal office in Viareggio, Italy (hereinafter referred to as "SEC") and MARNABI SpA with principal office in Naples, Italy (hereinafter referred to as "MARNABI"):

HEREBY AGREE AS FOLLOWS

- 1) As a better understanding of art. C-5, Art. D and Art. E-1 of the agreement dated 28/07/1997, the shipment of paint and lining for the treatment of the 5000 m2 shall be completed within 20 days and delivery to the Yard in Termoli, via SEC - Viareggio, shall take place within 30 days from the signature of the referred agreement.
- 2) MARNABI shall against the shipment notice of paint and lining deliver a bank guarantee to SEC and GATT-APS for the amount indicated in Art. D) (i.e. USD 155.750).
- 3) On arrival at SEC of the above mentioned material for the treatment of the 5000 m2, MARNABI shall pay the amount of USD 50.000 to GATT-APS, as per Art. E-1.
- 4) Should a any delay occur in the delivery of paint and lining, and should such delay exceed 10 days, MARNABI shall have the right to rescind the contract.
Should the above 10 days delay occur despite shipment has taken place in due time, MARNABI shall have the right to rescind the contract by paying 50% of the shipment cost sustained by GATT-APS / SEC.

For Approval

Viareggio, 28 July 1997

GATT-APS

Title

MARNABI

Title TECH. Dir.

SEC

Title

ADVANCED
POLYMER SCIENCES, INC.

Remit To:

P.O. Box 269
Avon, Ohio 44011
216-871-0134
Telex 985504
E.I.N. #34-1542041

~~XXXXXXXXXXXXXXXXXXXX~~

Invoice

QUANTITY ORDERED	CUSTOMER'S ORDER NO. - DATE	REPRESENTATIVE	OUR ORDER NO.	INVOICE NO.
		25,000-01	C-4849	T-10530

Marnavi, S.P.A.
80133 Napoli
Via S. Brigida 39
ITALY
Attn: Mr. Claudio Pesce

C Shipyard
Italy

TERMS: U.S. \$50,000.00 on
signing of contract.
U.S. \$107,750.00 on
approval by DNV or
RINA within 1 year -
Details below.

INVOICE DATE 8-12-97

DATE SHIPPED 8-12-97

HOW SHIPPED Ocean Frt.
PPD.

QUANTITY ORDERED	DESCRIPTION	UNIT PRICE	QUANTITY		AMOUNT
			BACK ORDERED	SHIPPED	
	Supply all material, labor, inspection and heat curing for M/V "Joran" - 3500 DWT Tanker (surface preparation, staging, DH, etc. by shipyard).				
	20 tanks - approximately 5000m ² to be coated and lined as follows:				
	1) All tank tops & 1.5m up side bulkheads to be lined with reinforced MarineLine - 1.5 to 2.0 mm thickness				
	2) All deckheads and bulkheads down to 1.5m from tanktop to be coated with MarineLine at 300 to 400 microns				
	Upgrading M/V "Joran" to carry acids for DNV and RINA approval				\$157,750.00
	Terms of Payment: U.S. \$50,000 on signing of Contract. U.S. \$107,750.00 on approval by DNV or RINA to carry acids but no later than 1 year after receipt of approval by DNV or RINA to carry said cargoes.				
	Shore side tank to be lined in subscale proportion to above procedure to be used as test bed. After exposure to various acids such as sulphuric, hydrochloric, acetic, phosphoric and solvents such as methanol, ACN, EDC, etc. For 30 days a DNV and RINA inspection will be carried out and approval/disapproval to be given based on results. If approval is given ship will then be allowed to carry said cargoes.				
				TOTAL DUE U.S.	\$157,750.00

IS SUBJECT TO STRIKES, ACCIDENTS, DELAYS OF CARRIERS OR OTHER CAUSES BEYOND OUR CONTROL. IF IT IS AGREED THAT THE BUYER MUST MAKE CLAIMS FOR DEFECTIVE OR FOR ANY OTHER CAUSE NO LATER THAN 30 DAYS FROM THE DATE OF THIS INVOICE. THE SELLER SHALL NOT BE LIABLE FOR MORE THAN THE PRICE CHARGED FOR SUCH AS MAY PROVE DEFECTIVE OR NOT IN ACCORDANCE WITH SPECIFICATIONS AND IN ANY EVENT SHALL NOT BE LIABLE FOR LABOR REPAIRS OR ALTERATIONS. REPAIRED MATERIAL PROVEN DEFECTIVE WILL BE REPLACED. NO GOODS TO BE RETURNED WITHOUT OUR PERMISSION. GOODS OF SERVICES COVERED BY THIS INVOICE PRODUCED IN COMPLIANCE WITH THE FAIR LABOR STANDARDS ACT OF 1938 AS AMENDED. SEE REVERSE SIDE FOR TERMS AND CONDITIONS.

PART I**ARBITRATION PURSUANT TO AN ARBITRATION AGREEMENT***Introductory***1 General principles**

The provisions of this Part are founded on the following principles, and shall be construed accordingly—

- (a) the object of arbitration is to obtain the fair resolution of disputes by an impartial tribunal without unnecessary delay or expense;
- (b) the parties should be free to agree how their disputes are resolved, subject only to such safeguards as are necessary in the public interest;
- (c) in matters governed by this Part the court should not intervene except as provided by this Part.

2 Scope of application of provisions

- (1) The provisions of this Part apply where the seat of the arbitration is in England and Wales or Northern Ireland.
- (2) The following sections apply even if the seat of the arbitration is outside England and Wales or Northern Ireland or no seat has been designated or determined—
 - (a) sections 9 to 11 (stay of legal proceedings, &c.), and
 - (b) section 66 (enforcement of arbitral awards).
- (3) The powers conferred by the following sections apply even if the seat of the arbitration is outside England and Wales or Northern Ireland or no seat has been designated or determined—
 - (a) section 43 (securing the attendance of witnesses), and
 - (b) section 44 (court powers exercisable in support of arbitral proceedings);but the court may refuse to exercise any such power if, in the opinion of the court, the fact that the seat of the arbitration is outside England and Wales or Northern Ireland, or that when designated or determined the seat is likely to be outside England and Wales or Northern Ireland, makes it inappropriate to do so.
- (4) The court may exercise a power conferred by any provision of this Part not mentioned in subsection (2) or (3) for the purpose of supporting the arbitral process where—
 - (a) no seat of the arbitration has been designated or determined, and
 - (b) by reason of a connection with England and Wales or Northern Ireland the court is satisfied that it is appropriate to do so.
- (5) Section 7 (separability of arbitration agreement) and section 8 (death of a party) apply where the law applicable to the arbitration agreement is the law of England and Wales or Northern Ireland even if the seat of the arbitration is outside England and Wales or Northern Ireland or has not been designated or determined.

3 The seat of the arbitration

In this Part "the seat of the arbitration" means the juridical seat of the arbitration designated—

- (a) by the parties to the arbitration agreement, or
- (b) by any arbitral or other institution or person vested by the parties with powers in that regard, or
- (c) by the arbitral tribunal if so authorised by the parties,

or determined, in the absence of any such designation, having regard to the parties' agreement and all the relevant circumstances.

4 Mandatory and non-mandatory provisions

- (1) The mandatory provisions of this Part are listed in Schedule 1 and have effect notwithstanding any agreement to the contrary.
- (2) The other provisions of this Part (the "non-mandatory provisions") allow the parties to make their own arrangements by agreement but provide rules which apply in the absence of such agreement.

- (3) The parties may make such arrangements by agreeing to the application of institutional rules or providing any other means by which a matter may be decided.
- (4) It is immaterial whether or not the law applicable to the parties' agreement is the law of England and Wales or, as the case may be, Northern Ireland.
- (5) The choice of a law other than the law of England and Wales or Northern Ireland as the applicable law in respect of a matter provided for by a non-mandatory provision of this Part is equivalent to an agreement making provision about that matter.

For this purpose an applicable law determined in accordance with the parties' agreement, or which is objectively determined in the absence of any express or implied choice, shall be treated as chosen by the parties.

5 Agreements to be in writing

- (1) The provisions of this Part apply only where the arbitration agreement is in writing, and any other agreement between the parties as to any matter is effective for the purposes of this Part only if in writing.
The expressions "agreement", "agree" and "agreed" shall be construed accordingly.
- (2) There is an agreement in writing—
 - (a) if the agreement is made in writing (whether or not it is signed by the parties),
 - (b) if the agreement is made by exchange of communications in writing, or
 - (c) if the agreement is evidenced in writing.
- (3) Where parties agree otherwise than in writing by reference to terms which are in writing, they make an agreement in writing.
- (4) An agreement is evidenced in writing if an agreement made otherwise than in writing is recorded by one of the parties, or by a third party, with the authority of the parties to the agreement.
- (5) An exchange of written submissions in arbitral or legal proceedings in which the existence of an agreement otherwise than in writing is alleged by one party against another party and not denied by the other party in his response constitutes as between those parties an agreement in writing to the effect alleged.
- (6) References in this Part to anything being written or in writing include its being recorded by any means.

The arbitration agreement

6 Definition of arbitration agreement

- (1) In this Part an "arbitration agreement" means an agreement to submit to arbitration present or future disputes (whether they are contractual or not).
- (2) The reference in an agreement to a written form of arbitration clause or to a document containing an arbitration clause constitutes an arbitration agreement if the reference is such as to make that clause part of the agreement.

7 Separability of arbitration agreement

Unless otherwise agreed by the parties, an arbitration agreement which forms or was intended to form part of another agreement (whether or not in writing) shall not be regarded as invalid, non-existent or ineffective because that other agreement is invalid, or did not come into existence or has become ineffective, and it shall for that purpose be treated as a distinct agreement.

8 Whether agreement discharged by death of a party

- (1) Unless otherwise agreed by the parties, an arbitration agreement is not discharged by the death of a party and may be enforced by or against the personal representatives of that party.
- (2) Subsection (1) does not affect the operation of any enactment or rule of law by virtue of which a substantive right or obligation is extinguished by death.

Stay of legal proceedings

9 Stay of legal proceedings

- (1) A party to an arbitration agreement against whom legal proceedings are brought (whether by way of claim or counterclaim) in respect of a matter which under the agreement is to be referred to arbitration may (upon notice to the other parties to the proceedings) apply to the court in which the proceedings have been brought to stay the proceedings so far as they concern that matter.
- (2) An application may be made notwithstanding that the matter is to be referred to arbitration only after the exhaustion of other dispute resolution procedures.
- (3) An application may not be made by a person before taking the appropriate procedural step (if any) to acknowledge the legal proceedings against him or after he has taken any step in those proceedings to answer the substantive claim.
- (4) On an application under this section the court shall grant a stay unless satisfied that the arbitration agreement is null and void, inoperative, or incapable of being performed.
- (5) If the court refuses to stay the legal proceedings, any provision that an award is a condition precedent to the bringing of legal proceedings in respect of any matter is of no effect in relation to those proceedings.

10 Reference of interpleader issue to arbitration

- (1) Where in legal proceedings relief by way of interpleader is granted and any issue between the claimants is one in respect of which there is an arbitration agreement between them, the court granting the relief shall direct that the issue be determined in accordance with the agreement unless the circumstances are such that proceedings brought by a claimant in respect of the matter would not be stayed.
- (2) Where subsection (1) applies but the court does not direct that the issue be determined in accordance with the arbitration agreement, any provision that an award is a condition precedent to the bringing of legal proceedings in respect of any matter shall not affect the determination of that issue by the court.

11 Retention of security where Admiralty proceedings stayed

- (1) Where Admiralty proceedings are stayed on the ground that the dispute in question should be submitted to arbitration, the court granting the stay may, if in those proceedings property has been arrested or bail or other security has been given to prevent or obtain release from arrest—
 - (a) order that the property arrested be retained as security for the satisfaction of any award given in the arbitration in respect of that dispute, or
 - (b) order that the stay of those proceedings be conditional on the provision of equivalent security for the satisfaction of any such award.
- (2) Subject to any provision made by rules of court and to any necessary modifications, the same law and practice shall apply in relation to property retained in pursuance of an order as would apply if it were held for the purposes of proceedings in the court making the order.

Commencement of arbitral proceedings

12 Power of court to extend time for beginning arbitral proceedings, &c

- (1) Where an arbitration agreement to refer future disputes to arbitration provides that a claim shall be barred, or the claimant's right extinguished, unless the claimant takes within a time fixed by the agreement some step—
 - (a) to begin arbitral proceedings, or
 - (b) to begin other dispute resolution procedures which must be exhausted before arbitral proceedings can be begun,
 the court may by order extend the time for taking that step.
- (2) Any party to the arbitration agreement may apply for such an order (upon notice to the other parties), but only after a claim has arisen and after exhausting any available arbitral process for obtaining an extension of time.
- (3) The court shall make an order only if satisfied—
 - (a) that the circumstances are such as were outside the reasonable contemplation of the parties when they agreed the provision in question, and that it would be just to extend the time, or
 - (b) that the conduct of one party makes it unjust to hold the other party to the strict terms of the provision in question.
- (4) The court may extend the time for such period and on such terms as it thinks fit, and may do so whether or not the

time previously fixed (by agreement or by a previous order) has expired.

- (5) An order under this section does not affect the operation of the Limitation Acts (see section 13).
- (6) The leave of the court is required for any appeal from a decision of the court under this section.

13 Application of Limitation Acts

- (1) The Limitation Acts apply to arbitral proceedings as they apply to legal proceedings.
- (2) The court may order that in computing the time prescribed by the Limitation Acts for the commencement of proceedings (including arbitral proceedings) in respect of a dispute which was the subject matter—
 - (a) of an award which the court orders to be set aside or declares to be of no effect, or
 - (b) of the affected part of an award which the court orders to be set aside in part, or declares to be in part of no effect,the period between the commencement of the arbitration and the date of the order referred to in paragraph (a) or (b) shall be excluded.
- (3) In determining for the purposes of the Limitation Acts when a cause of action accrued, any provision that an award is a condition precedent to the bringing of legal proceedings in respect of a matter to which an arbitration agreement applies shall be disregarded.
- (4) In this Part "the Limitation Acts" means—
 - (a) in England and Wales, the [1980 c. 58.] Limitation Act 1980, the [1984 c. 16.] Foreign Limitation Periods Act 1984 and any other enactment (whenever passed) relating to the limitation of actions;
 - (b) in Northern Ireland, the [S.I. 1989/1339 (N.I. 11).] Limitation (Northern Ireland) Order 1989, the [S.I. 1985/754 (N.I. 5).] Foreign Limitation Periods (Northern Ireland) Order 1985 and any other enactment (whenever passed) relating to the limitation of actions.

14 Commencement of arbitral proceedings

- (1) The parties are free to agree when arbitral proceedings are to be regarded as commenced for the purposes of this Part and for the purposes of the Limitation Acts.
- (2) If there is no such agreement the following provisions apply.
- (3) Where the arbitrator is named or designated in the arbitration agreement, arbitral proceedings are commenced in respect of a matter when one party serves on the other party or parties a notice in writing requiring him or them to submit that matter to the person so named or designated.
- (4) Where the arbitrator or arbitrators are to be appointed by the parties, arbitral proceedings are commenced in respect of a matter when one party serves on the other party or parties notice in writing requiring him or them to appoint an arbitrator or to agree to the appointment of an arbitrator in respect of that matter.
- (5) Where the arbitrator or arbitrators are to be appointed by a person other than a party to the proceedings, arbitral proceedings are commenced in respect of a matter when one party gives notice in writing to that person requesting him to make the appointment in respect of that matter.

The arbitral tribunal

15 The arbitral tribunal

- (1) The parties are free to agree on the number of arbitrators to form the tribunal and whether there is to be a chairman or umpire.
- (2) Unless otherwise agreed by the parties, an agreement that the number of arbitrators shall be two or any other even number shall be understood as requiring the appointment of an additional arbitrator as chairman of the tribunal.
- (3) If there is no agreement as to the number of arbitrators, the tribunal shall consist of a sole arbitrator.

16 Procedure for appointment of arbitrators

- (1) The parties are free to agree on the procedure for appointing the arbitrator or arbitrators, including the procedure for appointing any chairman or umpire.
- (2) If or to the extent that there is no such agreement, the following provisions apply.

- (3) If the tribunal is to consist of a sole arbitrator, the parties shall jointly appoint the arbitrator not later than 28 days after service of a request in writing by either party to do so.
- (4) If the tribunal is to consist of two arbitrators, each party shall appoint one arbitrator not later than 14 days after service of a request in writing by either party to do so.
- (5) If the tribunal is to consist of three arbitrators—
 - (a) each party shall appoint one arbitrator not later than 14 days after service of a request in writing by either party to do so, and
 - (b) the two so appointed shall forthwith appoint a third arbitrator as the chairman of the tribunal.
- (6) If the tribunal is to consist of two arbitrators and an umpire—
 - (a) each party shall appoint one arbitrator not later than 14 days after service of a request in writing by either party to do so, and
 - (b) the two so appointed may appoint an umpire at any time after they themselves are appointed and shall do so before any substantive hearing or forthwith if they cannot agree on a matter relating to the arbitration.
- (7) In any other case (in particular, if there are more than two parties) section 18 applies as in the case of a failure of the agreed appointment procedure.

17 Power in case of default to appoint sole arbitrator

- (1) Unless the parties otherwise agree, where each of two parties to an arbitration agreement is to appoint an arbitrator and one party ("the party in default") refuses to do so, or fails to do so within the time specified, the other party, having duly appointed his arbitrator, may give notice in writing to the party in default that he proposes to appoint his arbitrator to act as sole arbitrator.
- (2) If the party in default does not within 7 clear days of that notice being given—
 - (a) make the required appointment, and
 - (b) notify the other party that he has done so,
 the other party may appoint his arbitrator as sole arbitrator whose award shall be binding on both parties as if he had been so appointed by agreement.
- (3) Where a sole arbitrator has been appointed under subsection (2), the party in default may (upon notice to the appointing party) apply to the court which may set aside the appointment.
- (4) The leave of the court is required for any appeal from a decision of the court under this section.

18 Failure of appointment procedure

- (1) The parties are free to agree what is to happen in the event of a failure of the procedure for the appointment of the arbitral tribunal.
 There is no failure if an appointment is duly made under section 17 (power in case of default to appoint sole arbitrator), unless that appointment is set aside.
- (2) If or to the extent that there is no such agreement any party to the arbitration agreement may (upon notice to the other parties) apply to the court to exercise its powers under this section.
- (3) Those powers are—
 - (a) to give directions as to the making of any necessary appointments;
 - (b) to direct that the tribunal shall be constituted by such appointments (or any one or more of them) as have been made;
 - (c) to revoke any appointments already made;
 - (d) to make any necessary appointments itself.
- (4) An appointment made by the court under this section has effect as if made with the agreement of the parties.
- (5) The leave of the court is required for any appeal from a decision of the court under this section.

19 Court to have regard to agreed qualifications

In deciding whether to exercise, and in considering how to exercise, any of its powers under section 16 (procedure for appointment of arbitrators) or section 18 (failure of appointment procedure), the court shall have due regard to

any agreement of the parties as to the qualifications required of the arbitrators.

20 Chairman

- (1) Where the parties have agreed that there is to be a chairman, they are free to agree what the functions of the chairman are to be in relation to the making of decisions, orders and awards.
- (2) If or to the extent that there is no such agreement, the following provisions apply.
- (3) Decisions, orders and awards shall be made by all or a majority of the arbitrators (including the chairman).
- (4) The view of the chairman shall prevail in relation to a decision, order or award in respect of which there is neither unanimity nor a majority under subsection (3).

21 Umpire

- (1) Where the parties have agreed that there is to be an umpire, they are free to agree what the functions of the umpire are to be, and in particular—
 - (a) whether he is to attend the proceedings, and
 - (b) when he is to replace the other arbitrators as the tribunal with power to make decisions, orders and awards.
- (2) If or to the extent that there is no such agreement, the following provisions apply.
- (3) The umpire shall attend the proceedings and be supplied with the same documents and other materials as are supplied to the other arbitrators.
- (4) Decisions, orders and awards shall be made by the other arbitrators unless and until they cannot agree on a matter relating to the arbitration.

In that event they shall forthwith give notice in writing to the parties and the umpire, whereupon the umpire shall replace them as the tribunal with power to make decisions, orders and awards as if he were sole arbitrator.
- (5) If the arbitrators cannot agree but fail to give notice of that fact, or if any of them fails to join in the giving of notice, any party to the arbitral proceedings may (upon notice to the other parties and to the tribunal) apply to the court which may order that the umpire shall replace the other arbitrators as the tribunal with power to make decisions, orders and awards as if he were sole arbitrator.
- (6) The leave of the court is required for any appeal from a decision of the court under this section.

22 Decision-making where no chairman or umpire

- (1) Where the parties agree that there shall be two or more arbitrators with no chairman or umpire, the parties are free to agree how the tribunal is to make decisions, orders and awards.
- (2) If there is no such agreement, decisions, orders and awards shall be made by all or a majority of the arbitrators.

23 Revocation of arbitrator's authority

- (1) The parties are free to agree in what circumstances the authority of an arbitrator may be revoked.
- (2) If or to the extent that there is no such agreement the following provisions apply.
- (3) The authority of an arbitrator may not be revoked except—
 - (a) by the parties acting jointly, or
 - (b) by an arbitral or other institution or person vested by the parties with powers in that regard.
- (4) Revocation of the authority of an arbitrator by the parties acting jointly must be agreed in writing unless the parties also agree (whether or not in writing) to terminate the arbitration agreement.
- (5) Nothing in this section affects the power of the court—
 - (a) to revoke an appointment under section 18 (powers exercisable in case of failure of appointment procedure), or
 - (b) to remove an arbitrator on the grounds specified in section 24.

24 Power of court to remove arbitrator

- (1) A party to arbitral proceedings may (upon notice to the other parties, to the arbitrator concerned and to any other arbitrator) apply to the court to remove an arbitrator on any of the following grounds—
 - (a) that circumstances exist that give rise to justifiable doubts as to his impartiality;
 - (b) that he does not possess the qualifications required by the arbitration agreement;
 - (c) that he is physically or mentally incapable of conducting the proceedings or there are justifiable doubts as to his capacity to do so;
 - (d) that he has refused or failed—
 - (i) properly to conduct the proceedings, or
 - (ii) to use all reasonable despatch in conducting the proceedings or making an award,and that substantial injustice has been or will be caused to the applicant.
- (2) If there is an arbitral or other institution or person vested by the parties with power to remove an arbitrator, the court shall not exercise its power of removal unless satisfied that the applicant has first exhausted any available recourse to that institution or person.
- (3) The arbitral tribunal may continue the arbitral proceedings and make an award while an application to the court under this section is pending.
- (4) Where the court removes an arbitrator, it may make such order as it thinks fit with respect to his entitlement (if any) to fees or expenses, or the repayment of any fees or expenses already paid.
- (5) The arbitrator concerned is entitled to appear and be heard by the court before it makes any order under this section.
- (6) The leave of the court is required for any appeal from a decision of the court under this section.

25 Resignation of arbitrator

- (1) The parties are free to agree with an arbitrator as to the consequences of his resignation as regards—
 - (a) his entitlement (if any) to fees or expenses, and
 - (b) any liability thereby incurred by him.
- (2) If or to the extent that there is no such agreement the following provisions apply.
- (3) An arbitrator who resigns his appointment may (upon notice to the parties) apply to the court—
 - (a) to grant him relief from any liability thereby incurred by him, and
 - (b) to make such order as it thinks fit with respect to his entitlement (if any) to fees or expenses or the repayment of any fees or expenses already paid.
- (4) If the court is satisfied that in all the circumstances it was reasonable for the arbitrator to resign, it may grant such relief as is mentioned in subsection (3)(a) on such terms as it thinks fit.
- (5) The leave of the court is required for any appeal from a decision of the court under this section.

26 Death of arbitrator or person appointing him

- (1) The authority of an arbitrator is personal and ceases on his death.
- (2) Unless otherwise agreed by the parties, the death of the person by whom an arbitrator was appointed does not revoke the arbitrator's authority.

27 Filling of vacancy, &c

- (1) Where an arbitrator ceases to hold office, the parties are free to agree—
 - (a) whether and if so how the vacancy is to be filled,
 - (b) whether and if so to what extent the previous proceedings should stand, and
 - (c) what effect (if any) his ceasing to hold office has on any appointment made by him (alone or jointly).
- (2) If or to the extent that there is no such agreement, the following provisions apply.
- (3) The provisions of sections 16 (procedure for appointment of arbitrators) and 18 (failure of appointment procedure) apply in relation to the filling of the vacancy as in relation to an original appointment.

- (4) The tribunal (when reconstituted) shall determine whether and if so to what extent the previous proceedings should stand.
This does not affect any right of a party to challenge those proceedings on any ground which had arisen before the arbitrator ceased to hold office.
- (5) His ceasing to hold office does not affect any appointment by him (alone or jointly) of another arbitrator, in particular any appointment of a chairman or umpire.

28 Joint and several liability of parties to arbitrators for fees and expenses

- (1) The parties are jointly and severally liable to pay to the arbitrators such reasonable fees and expenses (if any) as are appropriate in the circumstances.
- (2) Any party may apply to the court (upon notice to the other parties and to the arbitrators) which may order that the amount of the arbitrators' fees and expenses shall be considered and adjusted by such means and upon such terms as it may direct.
- (3) If the application is made after any amount has been paid to the arbitrators by way of fees or expenses, the court may order the repayment of such amount (if any) as is shown to be excessive, but shall not do so unless it is shown that it is reasonable in the circumstances to order repayment.
- (4) The above provisions have effect subject to any order of the court under section 24(4) or 25(3)(b) (order as to entitlement to fees or expenses in case of removal or resignation of arbitrator).
- (5) Nothing in this section affects any liability of a party to any other party to pay all or any of the costs of the arbitration (see sections 59 to 65) or any contractual right of an arbitrator to payment of his fees and expenses.
- (6) In this section references to arbitrators include an arbitrator who has ceased to act and an umpire who has not replaced the other arbitrators.

29 Immunity of arbitrator

- (1) An arbitrator is not liable for anything done or omitted in the discharge or purported discharge of his functions as arbitrator unless the act or omission is shown to have been in bad faith.
- (2) Subsection (1) applies to an employee or agent of an arbitrator as it applies to the arbitrator himself.
- (3) This section does not affect any liability incurred by an arbitrator by reason of his resigning (but see section 25).

Jurisdiction of the arbitral tribunal

30 Competence of tribunal to rule on its own jurisdiction

- (1) Unless otherwise agreed by the parties, the arbitral tribunal may rule on its own substantive jurisdiction, that is, as to—
 - (a) whether there is a valid arbitration agreement,
 - (b) whether the tribunal is properly constituted, and
 - (c) what matters have been submitted to arbitration in accordance with the arbitration agreement.
- (2) Any such ruling may be challenged by any available arbitral process of appeal or review or in accordance with the provisions of this Part.

31 Objection to substantive jurisdiction of tribunal

- (1) An objection that the arbitral tribunal lacks substantive jurisdiction at the outset of the proceedings must be raised by a party not later than the time he takes the first step in the proceedings to contest the merits of any matter in relation to which he challenges the tribunal's jurisdiction.
A party is not precluded from raising such an objection by the fact that he has appointed or participated in the appointment of an arbitrator.
- (2) Any objection during the course of the arbitral proceedings that the arbitral tribunal is exceeding its substantive jurisdiction must be made as soon as possible after the matter alleged to be beyond its jurisdiction is raised.
- (3) The arbitral tribunal may admit an objection later than the time specified in subsection (1) or (2) if it considers the delay justified.

- (4) Where an objection is duly taken to the tribunal's substantive jurisdiction and the tribunal has power to rule on its own jurisdiction, it may—
- (a) rule on the matter in an award as to jurisdiction, or
 - (b) deal with the objection in its award on the merits.

If the parties agree which of these courses the tribunal should take, the tribunal shall proceed accordingly.

- (5) The tribunal may in any case, and shall if the parties so agree, stay proceedings whilst an application is made to the court under section 32 (determination of preliminary point of jurisdiction).

IN THE HIGH COURT OF JUSTICE

QUEEN'S BENCH DIVISION

COMMERCIAL COURT

IN THE MATTER OF THE ARBITRATION ACT 1996

AND

IN THE MATTER OF AN ARBITRATION

BETWEEN:

MR. JUSTICE LANGLEY

JILMAR SHIPPING SA

Applicant

-and-

- (1) GUARANTEED ADVANCED TANK TECHNOLOGY LIMITED
- (2) ADVANCED POLYMER SCIENCES INC
- (3) CANTIERE NAVALE SEC, SOCIETA ESERCIZIO CANTIERI GROUP SpA

Respondents

ORDER

UPON READING the statement of Michael William Aubrey Lloyd and

UPON HEARING the applicants' solicitors

IT IS ORDERED that

Pursuant to section 18 of the Arbitration Act 1996, Mr. George Lugg be appointed as sole arbitrator in the intended arbitration between the parties.

DATED this 6 day of June 2001

2001 FOLIO NO 378



FAX



ADVANCED POLYMER SCIENCES

Avon, Ohio 44011 U.S.A.

(+01) 440.937.6218 (800-334-7193) PHONE

(+01) 440.937.5046 (800-615-0233) FAX

Company:	George Lugg, L.M.A.A.	Date:	September 18, 2001
Attention:	Mr. George Lugg	Fax Number:	44.121.375.2595
From:	Denise Keehan	No. of Pages:	1
Reference:	Your faxes 10 th & 18 th September 2001 - M/V "Joran"		
Copies:			

Text of Message:

Dear Mr. Lugg,

Please be advised that Guaranteed Advanced Tank Technology Ltd., Limited Liability Company nor Advanced Polymer Sciences, Inc. has ever entered into any contracts with Jilmar Shipping SA.

Also, be advised that Advanced Polymer Sciences, Inc. was a minor shareholder in the Limited Liability Company GATT, Ltd. GATT is no longer in business due to loss of over \$569,000.00 U.S.D. from non-payment of invoices by Marnavi. Please be further advised that APS, Inc. being a shareholder in GATT Ltd, LLC, which was an independent limited liability company, has no fiduciary responsibility to said company.

I hope this clears this matter up and I apologize for any inconvenience which may have caused you.

Very truly yours,


 Denise Keehan
 Vice President

FAX



**ADVANCED
POLYMER SCIENCES**

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(+01) 440.937.6218 (800-334-7193) PHONE
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Company:	George Lugg, L.M.A.A.	Date:	September 19, 2001
Attention:	Mr. George Lugg	Fax Number:	44.20.7375.2595
From:	Denise Keenan	No. of Pages:	1
Reference:	M.V. "Joran"		
Copies:			

Text of Message:

Dear Mr. Lugg,

We have received a copy of Lloyd and Co.'s fax to you.

As you will note only the invoicing was changed at the request of Mamavi. There was no addendum's or changes to the contract, especially pertaining to the interested parties.

Since we do not have copies of the points of claim we would appreciate you forwarding all documentation filed in this matter.

Please also advise Cantlere Navale Sec's response to Jilmar's filing.

Our defense will be based upon our review of all filings.

Very truly yours,


Denise Keenan

October 2, 2001

VIA FACSIMILE 020 7375 2595

VIA E-MAIL casebourne.leach@bigfoot.com

Mr. George Lugg
1 Whites Row
London E1 7NF

Re: *my "JORAN"*
Tank Coating Agreement dated 28th July 1997

Dear Mr Lugg:

The undersigned serves as the secretary and corporate counsel for Advanced Polymer Sciences, Inc., a Delaware Corporation with principal offices in Avon, Ohio and Guaranteed Advanced Tank Technology Ltd., an Ohio limited liability company with principal offices in Avon, Ohio. I transmit herewith my clients' statement of defense. The original statement of defense with attached exhibits is being sent via Airborne courier service today.

As set forth in the points of defense and proven by the exhibits attached thereto, no work was performed pursuant to the captioned agreement and there exists no document under which Advanced Polymer Sciences, Inc. consented to arbitration under the rules of the London Maritime Arbitrators Association. Before forcing Advance Polymer Sciences, Inc. or Guaranteed Advanced Tank Technology Ltd. to incur unnecessary legal expense, it is respectfully requested that you pass upon and make reasoned findings as to the contractual relationships, if any, which exist between Jilmar Shipping and these respondents and based upon those findings determine whether jurisdiction exists for you to hear the dispute without the consent of Advanced Polymer Sciences, Inc. and Guaranteed Advanced Tank Technology Ltd.

Very Truly Yours,

John M. Marios

JMM/eac
Enclosures

Addressee
October 2, 2001
Page 2

cc: Michael Lloyd

IN THE MATTER OF THE ARBITRATION ACT 1996

AND

IN THE MATTER OF AN ARBITRATION

BETWEEN

JILMAR SHIPPING SA

Claimants

- AND -

- (1) GUARANTEED ADVANCED TANK TECHNOLOGY LTD.
- (2) ADVANCED POLYMER SCIENCES INC.
- (3) CANTIERE NAVALE SEC

Respondents

m.v. "JORAN"

Tank Coating Agreement Dated 28th July 1997

INTERIM ARBITRATION AWARD

WHEREAS:

1. By the terms of an Agreement dated 28th July 1997 with an Addendum, between Guaranteed Advanced Tank Technology Ltd ("GATT"), Advanced Polymer Sciences Inc ("APS"), Cantiere Navale Sec ("SEC") (hereinafter referred to as "the Contractors") and Marnavi SpA acting on behalf of the Claimants (hereinafter referred to as "the Owners"), GATT, APS and SEC agreed to supply and install, or alternatively supervise the installation of, a high performance tank coating system for application to the cargo tanks of the m.v. "JORAN".
2. Paragraph H of the said Agreement provided that it should be construed in accordance with the laws of England. Paragraph I of the Agreement provided that any disputes arising between the parties to the Agreement which could not be amicably settled should be referred to arbitration in London.
3. Disputes did arise between the parties as hereafter particularised. The Owners appointed me, George Lugg, of 1 Whites Row, London E1 7NF to act as an arbitrator. Notice of my appointment was given to each of the Contractors but they failed to appoint arbitrators in response or to agree to my appointment as sole arbitrator. The Owners then applied to the High Court in England to appoint an arbitrator to resolve all disputes arising from the Agreement. By an order dated 15th June 2001 made by Mr. Justice Langley, sitting in the Commercial Court of the Queen's Bench Division of the English High Court of Justice, I was appointed as sole arbitrator in the arbitration between the parties.
4. Following my appointment by the Court, the Owners served Points of Claim on the Contractors. They claimed that the coating which the Contractors had supplied to the vessel was defective and unable to provide its claimed resistance to many cargoes. They further claimed that a large part of the coating was burned during the specialised heat curing process and that there

were many pinholes, craters, de-laminations and hairline cracks in the coating after it had been applied. They claimed damages for substantial losses and expenses to which they said they had been exposed because of the defects in the coating which, they said, was the responsibility of the Contractors.

5. GATT and SEC did not respond to the Points of Claim. APS responded, informing me that GATT had ceased to trade. They also denied that they were bound by the Agreement because it had never been performed. This, they said, was because the Owners had never presented the vessel to SEC for the work to be performed as set out in the Agreement. Accordingly, they said, no work had been performed under the Agreement and accordingly they were not bound to defend in London arbitration any claims arising from work which they said had been performed under a different, oral, agreement. The oral agreement, they said, was concluded outside England and did not include a requirement that disputes should be referred to arbitration in London, with English law to apply.
6. The Owners denied that they had been required to deliver the vessel to SEC. They drew attention to the reference in paragraph C7 of the Agreement to supervision of the Owners' sub contractors by GATT, APS and SEC and said that it was clear from this and paragraph A3 of the Agreement that the Owners were to appoint sub contractors to carry out the initial part of the work under the supervision of the Contractors. They denied they had entered into any oral agreement under which the coating of the vessel's tanks might have been carried out. They maintained that the work involved in coating the tanks had been performed under the terms of the Agreement.
7. Both APS and the Owners requested that I make an Interim Award as to whether or not I have jurisdiction to arbitrate in these disputes. APS also requested that I make my findings in the form of a reasoned Award. Accordingly I set out below the facts upon which I relied and the reasons for my findings.

8. The Agreement dated 28 July 1997 was an agreement covering work to be carried out in connection with the coating of the cargo tanks of the Owners' vessel m.v. "JORAN" by and / or under the supervision of the Contractors. The Owners and APS agreed that recoating work was carried out on the vessel after the agreement had been concluded, under the supervision of one or more of the Contractors.

9. The Agreement provided *inter alia* as follows:-

A) Ship board application

.....

2) MARNAVI will provide at his own expenses the surface preparation and shot blasting application of the cargo holds to be lined and coated, as per MarineLine technical specification.

3) SEC will care for survey of surface preparation and shot blasting applications, bearing the responsibility of the full compliance with the technical specification issued by GATT – APS;

4) GATT – APS will supply Marine Line coating as necessary to cover 5000 sq.m. of cargo tanks and it will survey the application works and it will duly carry out the final curing as per lining/coating technical specification.

.....

C) Obligations

.....

5) GATT-APS will supply the Marine-Line coating-lining material within 30 days from the contract entering into force.

6) GATT – APS – SEC will complete the entire tank coating within 60 days from the contract in place subject to the full availability of M/T JORAN as per the scheduled work program.

7) MARNAVI will order its subcontractors to shotblast and treat the surfaces to be lined/coated according to GATT-APS-SEC technical requirements.

.....
 There was an addendum to the Agreement, also dated 28th July, 1997 which read in part as follows:-

*Addendum to the agreement signed on 28/07/1997 by and between
 GATT-APS-SEC-MARNAVI*

.....
1) As a better understanding of art. C-5, Art. D and Art. E-1 of the agreement dated 28/07/1997, the shipment of paint and lining for the treatemnt (sic) of the 5000 m2 shall be completed within 20 days and delivery to the yard in Termoli, via SEC – Viareggio, shall take place within 30 days from the signature of the referred agreement.

.....
4) Should a any (sic) delay occur in the delivery of paint and lining, and should such delay exceed 10 days, MARNAVI shall have the right to rescind the contract.

-
10. Recoating work on the “JORAN” was carried out at the Termoli Shipyard in Italy. I was not informed of the date when the work commenced but, from correspondence attached to the submissions made by APS, it was clearly continuing during February, 1998. It is clear that the work was extending well beyond the 60 days that were provided for in paragraph C6 of the Agreement, but the only cancellation clause in the Agreement was clause 4 of the Addendum, quoted above, which operated in the Owners’ favour. APS did not claim that they or any of the Contractors had rescinded the Agreement, or that they had any right under the terms of the Agreement to do so.
 11. Clause 1 of the Addendum to the Agreement, also dated 28th July, 1997, specifically provided that the materials necessary for the work should be delivered by the Contractors to Termoli Shipyard. It is apparent from this that it was always intended that the work should be carried out in this location.

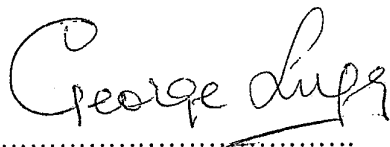
Further, clause C7 of the Agreement clearly stated that subcontractors appointed by MARNAVI will carry out shot blasting and treatment of the cargo tank surfaces in accordance with the technical requirements of GATT, APS and SEC. Accordingly I find that work which was carried out by the Contractors when coating the cargo tanks of the "JORAN" was carried out pursuant to the terms of the Agreement and that the Agreement remains in force.

NOW I, the undersigned George Lugg, having taken upon myself the burden of this reference, having considered the evidence put before me DO HEREBY MAKE, ISSUE AND PUBLISH this my INTERIM ARBITRATION AWARD as follows:

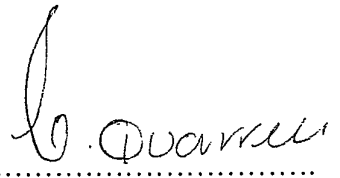
I FIND HOLD AND DECLARE that I have jurisdiction to act as arbitrator for all disputes between the parties arising out of the contract for the coating of the cargo tanks of the m.v. "JORAN" by the Contractors.

I FURTHER AWARD AND DIRECT that the Contractors shall be jointly and severally liable to bear their own and the Owners' costs of the reference insofar as these relate to this INTERIM AWARD, together with the costs of this INTERIM AWARD which I hereby tax and settle in the sum of £900.00, PROVIDED that if, in the first instance, the Owners shall have paid any part of the said costs they shall be entitled to immediate reimbursement by the Contractors of the sum so paid, together with interest thereon at the rate of 7% per annum from the date of this INTERIM AWARD until the date of payment.

Given under my hand this 15th day of July, 2002



George Lugg



Witness

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Manos & Stefanski Co.
Attn: John M. Manos, Esq.
Fax No. 001 216 348 1557

30th July, 2002

And:- Cantieri Navale Sec.
Fax No. 0039 0584 39 31 69

c.c. Michael Lloyd & Co.
Attn: Michael Lloyd
Fax No. 7248 3339

Subject:- m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

Further to my fax dated 18th July, by which I advised you that Michael Lloyd and Co. had picked up my Interim Award which dealt with my jurisdiction to arbitrate in the dispute between the Owners of this vessel and the Contractors involved in coating her cargo tanks, each of you should by now have received a copy of the award.

I have been asked by the Owners to order that the Respondents submit their Points of Defence to the substantive issues in this reference. I can see no reason why such an order should not be made and accordingly I propose to order that Points of Defence should be submitted within 28 days of today, that is by 27th August.

Unless I hear from you by 1700 hrs London time on Friday, 2nd August with cogent reasons why such an order should not be made, please take it that Points of Defence should be submitted within that time limit.

With best regards,

George Lugg

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E17NF

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Manos & Stefanski Co.
Att. John M. Manos, Esq.
Fax No. 001 216 348 1557

2nd September, 2002

And:- Cantiere Navale Soc.
Fax No. 0039 0584 39 31 69

c.c. Michael Lloyd & Co.
Att. Michael Lloyd
Fax No. 7248 3339

Subject:- m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

You will have seen the fax from Michael Lloyd & Co dated 30th August requesting that I issue an award on liability. You will also recall that I ordered that you serve your Points of Defence by 27th August, which you have failed to do.

Please may I hear from you by noon on Friday 6th September with your reasons for not complying with the order for submission of your Defence, together with your expectation of when you will be in a position to do so.

Please note that unless I hear from you as above by noon on 6th September then the following FINAL ORDER will apply.

The Respondents are to submit their Points of Defence to the Claimants and to the Tribunal by close of business in London on Friday 20th September, 2002. If your Defence is not received within this time limit the Tribunal may proceed to an award on liability without considering any further evidence or submissions from the Respondents.

With best regards,

George Lugg

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E17NF

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To: Michael Lloyd & Co.
Att: Michael Lloyd
Fax No: 7248 3339

18th October 2002

And: Manos & Stefanski Co.
Attn: John M Manos, Esq.
Fax No: 001 216 348 1557

c.c: Cantiere Navale Sec.
Fax No: 0039 0584 39 31 69

Subject: m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

Thank you for your letter of 17th October with which you enclosed a substantial further quantity of documentation which had not been previously been placed before me. Although I appreciate that the Respondents have already seen much of this, they clearly must have an opportunity for further comment in the light of the pleadings to date.

Accordingly I now order that the Respondents shall serve any further Points of Defence and/or any further comments which they may wish to make in the light of this disclosure within 28 days of today, that is by the 15th November.

With best regards,

George Lugg

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E17NF**FACSIMILE**

Email : lugg@casebourne-leach.co.uk

To:- John M. Manos Co. LPA.
Att: John M. Manos, Esq.
Fax No: 001 216 681 1810

21st October, 2002

And:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
Att: Denise Keehan
Fax No: 001 440 937 5046

And:- Cantieri Navale Sec.
Fax No: 0039 0584 39 31 69

c.c. Michael Lloyd & Co.
Att: Michael Lloyd
Fax No: 7248 3339

Subject:- m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

This is to thank Mr Manos for his fax of 18th October from which I note that he is no longer instructed by Advanced Polymer Sciences Inc. By copy of this fax to the last fax number which I have for them, I invite APS Inc. to make any further submissions directly to me within 15th November, whereafter I shall consider my Award on liability. I would be obliged if Mr Manos could advise me if the fax number I have used for APS Inc. is wrong. In the absence of any such notification from him I shall assume that they have received this fax.

I await any comments which Cantieri Navale SEC may wish to make, also before 15th November.

With best regards,

John M. Manos Co. LPA
739 East 140th Street, Cleveland, Ohio 44110
Telephone: 216-681-1818 • Fax: 216-681-1810

October 18, 2002

Mr. George Lugg
1 Whites Row
London, England E1 7NF

Via Facsimile: 020 7375 2595


Re: mv "JORAN"
Tank Coating Agreement dated July 28, 1997

Dear Mr. Lugg:

I acknowledge receipt of your facsimile of October 18, 2002 and thank you for the professional courtesy you extended. Please note my new contact information.

The undersigned will not be presenting any further points of defense in this matter. Advance Polymer Sciences, Inc. has for all intents and purposes ceased trading and I have been directed to discontinue my involvement with this matter. I adhere to the belief that the points of defense previously raised require that the petition be denied.

Very truly yours,


John M. Manos

JMM/ck

cc: Michael Lloyd - Via Facsimile

15

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF**FACSIMILE**

Email : lugg@casebourne-leach.co.uk

To:- John M. Manos, Co. LPA.
Att: John M. Manos, Esq.
Fax No: 001.216.681.1810

21st October, 2002

And:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
Att: Denise Keehan
Fax No: 001 440 937 5046

And:- Cantiere Navale Sec.
Fax No: 0039 0584 39 31 69

c.c. Michael Lloyd & Co.
Att: Michael Lloyd
Fax No: 7248 3339

Subject:- m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

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I await any comments which Cantiere Navale SEC may wish to make, also before 15th November.

With best regards,

IN THE MATTER OF THE ARBITRATION ACT 1996

AND

IN THE MATTER OF AN ARBITRATION

BETWEEN

JILMAR SHIPPING SA

Claimants

- AND -

- (1) GUARANTEED ADVANCED TANK TECHNOLOGY LTD.
- (2) ADVANCED POLYMER SCIENCES INC.
- (3) CANTIERE NAVALE SEC

Respondents

m.v. **"JORAN"**

Tank Coating Agreement Dated 28th July 1997

INTERIM FINAL ARBITRATION AWARD

WHEREAS:

1. By the terms of an Agreement dated 28th July 1997 with an Addendum, between Guaranteed Advanced Tank Technology Ltd ("GATT"), Advanced Polymer Sciences Inc ("APS"), Cantiere Navale Sec ("SEC") (hereinafter referred to as "the Contractors") and Marnavi SpA acting on behalf of the Claimants (hereinafter referred to as "the Owners"), GATT, APS and SEC agreed to supply and install or alternatively supervise the installation of, a high performance tank coating system for application to the cargo tanks of the m.v "JORAN".
2. Paragraph H of the said Agreement provided that it should be construed in accordance with the laws of England. Paragraph I of the Agreement provided that any disputes arising between the parties to the Agreement which could not be amicably settled should be referred to arbitration in London.
3. Disputes did arise between the parties as hereinafter particularised. The Owners appointed me, George Lugg, of 1 Whites row, London E1 7NF to act as an arbitrator. Notice of my appointment was given to each of the Contractors but they failed to appoint arbitrators in response or to agree to my appointment as sole arbitrator. The Owners then applied to the High Court in England to appoint an arbitrator to resolve all disputes arising from the Agreement. By an order dated 15th June 2001 made by Mr. Justice Langley, sitting in the Commercial Court of the Queen's Bench Division of the English High Court of Justice, I was appointed as sole arbitrator in the arbitration between the parties.
4. Following my appointment by the Court, the Owners served Points of Claim on the Contractors. Both APS and the Owners requested that I make an Interim Award as to whether or not I had jurisdiction to arbitrate in these disputes. I made an Interim Award which I published on 15th July, 2002 in which I found that I did have jurisdiction to arbitrate in respect of the disputes arising out of the coating by the Contractors of the tanks of the "JORAN" with

Siloxirane Marine Line Coating (hereinafter referred to as Siloxirane), a patented coating supplied by APS.

5. Following publication of my Interim Award on my jurisdiction, which was collected by the Owners, the Owners asked me to consider the matter of the liability of the Contractors for the alleged failure of the tank coating system, based upon the original Points of Claim but supplemented by further documentary evidence which they then produced. The Points of Claim alleged that the coating which the Contractors supplied and installed in Nos 1 to 20 cargo tanks of the vessel was unable to achieve the resistance to corrosive and toxic cargoes which the Contractors had claimed for it in their sales literature. They further claimed that a large part of the coating had been damaged during the heat curing process and that there were many pinholes, craters de-laminations and hairline cracks in the coating after it had been applied. They said that they had been exposed to substantial losses and expenses because of the defects in the coating which, they said, were the responsibility of the Contractors. They requested that I rule on the liability of the Contractors for those losses
6. The Owners also claimed that the following terms were to be implied by law into the Agreement in order to give it business efficacy:-
 - (a) The coating system supplied would be of the same standard and type as generally marketed by APS and with the same characteristics and attributes as advised.
 - (b) The coating system supplied would comply with the Cargo Resistance Guide published by APS.
 - (c) The coating system supplied would be reasonably fit for the purpose, namely to coat the cargo tanks of "JORAN" for the carriage of corrosive and toxic cargoes under IMO Rules as well as, if not better than stainless steel.
 - (d) That each of SEC, GATT and APS would exercise all reasonable care and diligence in carrying out their obligations under the Agreement.

7. None of the Contractors made any further submissions to me, other than those which they had made to assist me with my Interim Award. The Attorney who had been instructed by APS advised me that his instructions had been withdrawn and that APS would not be making any further submissions. Despite my invitations to SEC to take part in the reference, I received no correspondence or submissions from them at any time prior to the publication of this award.
8. In their original Defence Submissions, APS had said that, although they agreed that they had supplied the coating for the works, had observed the application of it to the tanks of the vessel and had contracted to carry out the final heat curing of the coating, all surface preparation of the ship's tanks and application of the coating was carried out by subcontractors appointed by the Owners and accordingly all that work was done at the Owners risk and expense. This, they said, was the real cause of the failure of the coating. Additionally, they said, APS had incurred greatly increased costs as a result of delays resulting from this action by the Owners.
9. The Owners asked for a Reasoned Award and accordingly my Reasons are attached to and form part of this Award.

NOW I, the undersigned George Lugg, having taken upon myself the burden of this reference, having considered the evidence put before me and the submissions made to me, DO HEREBY MAKE, ISSUE AND PUBLISH this my INTERIM FINAL AWARD as follows:

A. I FIND HOLD AND DECLARE that the application of Siloxirane coating to cargo tanks Nos 1 to 20 of the m.v. "JORAN" in 1997 and 1998 at the Termoli Shipyard in Italy was carried out under the Agreement between the parties dated 28th July 1997 and the Addendum thereto of the same date.

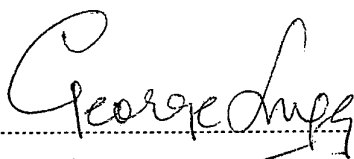
B I FURTHER FIND AND HOLD that the failure of the coating in service, discovered in February 1999, was the result of the inadequate nature of the coating,

which was unable to withstand attack from some of the chemicals to which it was said by APS to be resistant. Such chemicals are normally carried as cargo in chemical tankers of the International Maritime Organisation Class II, the grade of service into which it was intended that the vessel would be converted as a result of the application of the Siloxirane coating.

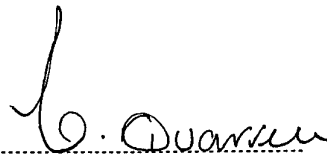
C. I FURTHER AWARD AND DIRECT that the Contractors shall be jointly and severally liable to bear their own and the Owners' costs of the reference insofar as these relate to this INTERIM FINAL AWARD, together with the cost of this INTERIM FINAL AWARD which I hereby assess in the sum of U.K.£3,270.00, PROVIDED that if, in the first instance the Owners shall have paid any part of the said costs they shall be entitled to immediate reimbursement by the Contractors of the sum so paid, together with interest thereon at the rate of 6% per annum, compounded at three monthly intervals, from the date of this INTERIM FINAL AWARD until the date of payment.

D. I DECLARE that this Award is final as to the matters dealt with herein but I RESERVE TO MYSELF jurisdiction to deal with any other matters which may arise, including questions of Quantum, upon receipt of further submissions.

Given under my hand this 4th day of February, 2003



George Lugg



Witness

"JORAN"

Agreement Dated 28th July 1997

Reasons For and Forming Part of the Interim Final Award on Liability

Facts

1. The vessel is a small tanker of about 3,300 deadweight tons built in Finland in 1971 as a wine tanker. She was bought by the Claimants, Jilmar Shipping S.A. in 1996 with a view to her conversion into a chemical tanker and for this reason she was taken to a shipyard in Constanza, Romania in order for works associated with this conversion and for other general repairs to be carried out. However, the Owners managers, Marnavi S.p.A., were dissatisfied with the work of the Constanza Shipyard and moved the vessel to a shipyard in Termoli on the Adriatic coast of Italy.

2. The vessel was originally built with 32 cargo tanks of which 12 were cylindrical stainless steel centre tanks which the Owners intended to keep. The other cargo tanks were constructed of normal shipbuilding quality steel coated with a proprietary coating. This coating required complete renewal and the vessel required a general refit before she would be able to re-enter service. The Owners intended to employ her in the chemical trade carrying cargoes covered by the International Maritime Organisation (IMO) code for bulk chemical tankers carrying dangerous chemicals in bulk. Accordingly it would be necessary for the mild steel tanks to be coated with a paint which would be resistant to chemical action by the various cargos which the vessel was likely to carry.

3. During the early stages of the work the Owners representative was introduced to Siloxirane Marine Line Coating (Siloxirane) which was produced and marketed by Advanced Polymer Sciences of Avon, Ohio, U.S.A. The introduction was affected by Cantiere Navale SEC (SEC) who were the exclusive agents for Siloxirane in Italy at the time. The Owners were provided with sales literature, some of which was also provided to me, which described Siloxirane as being resistant to a large range of cargoes including alkalies, several acids and other products commonly carried by chemical tankers. Indeed, the literature described Siloxirane as being resistant to more than 98% of all chemicals and to have a better resistance to corrosive attack than stainless steel.

4. The Owners were persuaded that Siloxirane was a suitable coating for mild steel tanks of a tanker in the chemical trade and that mild steel tanks coated with Siloxirane would be better than stainless steel tanks. They decided to remove the cylindrical stainless steel tanks and replace them with rectangular tanks constructed of normal shipbuilding steel. These tanks and most of the other cargo tanks would then be coated with Siloxirane. The new tank arrangement would increase the capacity of the ship to carry dangerous chemicals and since the IMO rules forbade such cargoes to be carried in tanks below the crew accommodation, modifications to the ship's superstructure would also be required.

5. An agreement was drawn up dated 28th July 1997, together with an addendum also dated 28th July 1997, whereby Owners' Managing Agents, Marnavi, agreed on behalf of the Owners to co-operate with APS and SEC in coating the cargo tanks of the

"JORAN" with Siloxirane. At this time a subsidiary company of APS appeared on the scene, Guaranteed Advanced Tank Technology Limited, who were intended to carry out the duties of APS under the Agreement and Addendum. The responsibilities of this subsidiary and its parent company, APS appear to have been identical and I propose to refer to both companies simply as APS.

6. The Agreement set out the background to the work, describing the three parties and their motives for entering into the Agreement and then specifying the responsibilities for each part of the work as follows:

A) Ship board application

- 1) *Marnavi will make available the M/T "JORAN" for cargo tanks coating;*
- 2) *MARNAVI will provide at his own expenses the surface preparation and shot blasting application of the cargo holds to be lined and coated, as per MarineLine technical specification.*
- 3) *SEC will care for survey of surface preparation and shot blasting applications, bearing the responsibility of the full compliance with the technical specification issued by GATT-APS;*
- 4) *GATT-APS will supply Marine Line coating as necessary to cover 5000 sq.m. of cargo tanks and it will survey the application works and it will duly carry out the final curing as per lining/coating technical specification.*

.....

C) Obligations

.....

- 5) *GATT-APS will supply the Marine-Line coating-lining material within 30 days from the contract entering into force.*
- 6) *GATT-APS-SEC will complete the entire tank coating within 60 days from the*

contract in place subject to the full availability of M/T JORAN as per the scheduled work program.

- 7) *MARNAVI will order its subcontractors to shotblast and treat the surfaces to be lined/coated according to GATT-APS-SEC technical requirements.*

.....

D) Price

*The entire work price at care of GATT-APS-SEC is:
USD 155.750 (one hundred and fifty five thousand seven hundred and fifty US dollars), 20.000 of which directly to SEC.
The above will include paint, lining supply and execution and expertise on site.*

E) Payment

- 1) *Down payment:
Marnavi will pay within 30 days after the contract is in place USD 50.000 to GATT-APS.*
- 2) *Final payment:
Marnavi will pay the balance to SEC and GATT-APS for the respective due amounts after successful completion of the test campaign and the issuing of the final classification and fitness certificates under IMO Authority by virtue of which the "M/T JORAN" has been recognised as permanently fit for the carriage of IMO II-III mineral acids.*

The following section of the Addendum to the agreement is also relevant.

.....

- 1) *As a better understanding of art. C-5, Art. D and Art. E-1 of the agreement dated 28/07/1997, the shipment of paint and lining for the treatment of the 5000 m2 shall be completed within 20 days and delivery to the Yard in Termoli, via SEC - Viareggio shall take place within 30 days from the signature of the referred agreement.*

7. Concurrently with the work described in the Agreement, a test tank was to be built on shore by SEC, coated with Siloxirane and filled with various chemicals to test the claims by APS for the resistance of the coating to those chemicals (the Shore Tests). This was to be done under the supervision of the vessel's Classification Society

to obtain provisional approval for the vessel to carry various dangerous cargoes. After completion of the Shore Tests and the coating work it was intended that the vessel should carry a series of dangerous cargoes, during which the ship's tanks and their coatings were to be examined by the Classification Society from time to time to ensure that the coating was working as intended. The responsibilities of the Parties for the various duties associated with the shore testing procedure were also set out in the Agreement.

8. Although the vessel was primarily classed with the Italian Classification Society, Registro Italiano Navale (RINA) the Owners asked Det Norske Veritas (DNV) to advise them on the coating and testing since they had had considerable previous experience with this type of coating. They also requested DNV to deal with the certification in connection with the IMO certificates for the carriage of dangerous chemicals. The Owners understood that DNV had had previous experience of Siloxirane.

9. After the stainless steel tanks had been removed and the new mild steel tanks had been installed the vessel had 28 separate cargo tanks. The Owners elected to coat Numbers 1 to 20 cargo tanks with Siloxirane and the other 8 tanks were coated with another product and were not involved in this dispute.

10. Work was started during September 1997 but, despite the time scale indicated in the Agreement, was not completed for about a year. Problems were experienced with cleaning the tanks in preparation for the coating, also with pinholes and cracks in

the coating after curing had been completed. Heat damage was sustained in a number of tanks as a result of incorrect heating during the curing process. Problems were also experienced with the fibreglass lining which had to be attached to the coating on the bottoms of the tanks and for the lower 1.2 metres of the vertical tank sides.

11. Eventually, on the 28th September 1998, APS issued a certificate in which they vouched that they had supervised and approved the surface preparation of the tanks and the application and curing of the Siloxirane and fibreglass coating. They recorded that they were satisfied that the cargo tanks of the vessel were suitable and fit for the carriage of cargoes listed in their resistance list for Siloxirane.

12. Despite this, DNV expressed concerns about the condition of the coating, saying that in their opinion the bottom lining of the tanks was susceptible to cracking and de-lamination of the top coat. Accordingly, the Owners decided to start trading the vessel in edible products in order to check whether the coating would remain intact in service.

13. She later started carrying toxic chemical cargoes..Early in 1999, after having carried several cargoes of sulphuric acid and caustic soda, on the 12th February a joint survey revealed that the fibreglass at the bottom of many of the tanks was cracked and had lifted in many places, and that significant residues of both the last and previous cargoes were lying below the surface and leaking out.

14. The Owners invited APS to advise them as to how the problems could be cured but APS declined to become involved.

15. Repairs were attempted but were unsatisfactory. The tanks were eventually grit blasted to remove all the Siloxirane coating and were then recoated with a different type of coating altogether.

Owners' Submissions

16. The Owners said that they had been induced to enter into the Contract by APS and SEC because they had been told by their representatives that Siloxirane Marine Line Coating had a better resistance to corrosive attack by chemical cargoes than had stainless steel. They said that these representations were false and that the coating in fact was likely to break down when the ship was loaded with such cargoes. In support of this allegation they adduced as evidence a report from Scientific & Technical Services Limited, (STS) of Blaydon, UK, specialists in paint coatings, who had carried out tests on various tank coating materials during a period before the Owners had become involved with APS. Siloxirane had been one of those coatings tested. These tests had concerned both static tests and cycling tests. In the former, steel panels coated with Siloxirane had been immersed in various chemicals for periods of up to 90 days to see whether they withstood chemical attack. Although I was not provided with the entire report, the parts which I did receive indicated that Siloxirane had started to blister during static immersion tests in 6% Acetic Acid, Acrylonitrile, Methyl Chloride and Methanol. It had also shown blistering during the cycling tests, in which the panels were immersed for various periods in a number of different chemical cargoes

JORAN" Agreement Dated 28th July 1997

and in water. All these tests had been carried out in 1993 and 1994 and, the Owners said, clearly showed that the coating was not resistant to attack by these fluids, all of which were likely to be carried as cargo by a vessel such as "JORAN" was intended to become.

17. The Owners said that although the results of these tests had been known to APS and SEC prior to July 1997, they had not made them available to the Owners. The Owners said that they had been led to believe that the coating was resistant to any chemicals which could be carried in stainless steel tanks and to others which could not.

18. Additionally, the Owners said that during the coating of the tanks, APS and SEC had not acted prudently, as a result of which the coating had been burned during heat curing so as to impair its effectiveness. On inspection after curing, pinholes, craters, delamination and hairline cracks were found in the surface of the coating which had required repair by "touching up". As a result, the coating was not fit to carry many of the chemical cargos which APS had said it would be able to carry.

19. The Owners produced a report which had been prepared by a surveyor appointed by the Italian Court in Genoa, who attended on board to inspect the tanks on the 14th April, 1999, after the coating was found to have broken down. The surveyor reported on those tanks which had been coated with Siloxirane which were available for his inspection, Numbers 1, 2, 3, 4, 5, 6, 8, 12 and 18. The other tanks were not available because sand blasting had already commenced within them to remove the Siloxirane coating.

20. The surveyor reported that the tanks had previously carried sulphuric acid and / or caustic soda cargoes, both of which were common cargoes on such a tanker and which Siloxirane had been intended to be capable of containing. The main areas of the damage in the tanks which were surveyed were at the bottom where the Siloxirane coating was laid with a fibreglass layer to prevent impact damage to the coating of the tank bottoms. In this area there was dark staining and small holes indicating cargo and washing water had penetrated the coating. The coating in the upper parts of the tanks appeared to be sound although it was noted to be easily detachable in places where it had been "touched up". Those tanks which had carried caustic soda showed lighter staining but still indicated penetration of the cargo into the coating. The Court surveyor concluded that, in all the tanks which he had inspected, the cargo had penetrated the coating in the area of the fibreglass but the damage was most severe in those which had carried sulphuric acid. These all showed coating film failures.

21. Repairs were attempted by the Owners but they said that both APS and SEC refused to co-operate. The repaired coating later failed again. Subsequently all the coating had to be removed and all 20 tanks had to be recoated with another coating provided by different manufacturers. That coating was not resistant to as many of the cargoes as Owners had been led to believe Siloxirane would be.

22. The Owners produced a statement from their Technical Director who had attended the vessel during the re-coating of the tanks, Mr Claudio Pesce. Mr Pesce described how he was approached by SEC, who were the sole agents in Italy for Siloxirane, with a view to coating the cargo tanks of one of their tankers. He said that

the nature of the coating and its resistance to chemical attack was described to him by SEC and the description indicated that Siloxirane would be a much better coating than any of the other available epoxy coatings and as good as or better than stainless steel. He described in his statement how he visited DNV in Oslo who he was told had had previous experience with Siloxirane and discussed with them how approval could be obtained for the carriage of IMO dangerous chemical cargos in mild steel tanks with a Siloxirane coating. He also discussed the situation with RINA.

23. Mr Pesce said that he was shown a report by Dr. Norbert Ackermann who had acted as an inspector representing APS during the final stages of the coating work and who had also previously carried out tests on Siloxirane for SEC. His full report on the tests had been shown to Mr Pesce although it was not made available to me. Mr Pesce said that it had indicated that Siloxirane could cope with more cargos than stainless steel. However, despite this, DNV had requested the Shore Tests of Siloxirane before certifying provisionally that the ship could commence service in the chemical trade and that subsequent inspections in service after the vessel commenced this trade would also be required.

24. Mr Pesce described the problems which had arisen during the coating and curing of the tanks and drew my attention to overheating which had occurred and which led to pinholes and hairline cracks in the surface. I was provided with copies of contemporary correspondence which dealt with these problems and the nature of the repairs which were recommended by APS and carried out. Mr Pesce described how, following completion of the coating and curing, and after testing the integrity of the

coating by high voltage spark testing, all Siloxirane coated tanks were tested by filling them with sea water, then draining them and leaving them for several days to see if rust spots developed beneath the coating. These tests disclosed what Mr Pesce described as numerous defects which had not been discovered before. These were further repaired by "touching up" the coating but later, further defects were found which also required repair.

25. The Owners also served a statement by Mr Per Strom, a Norwegian corrosion expert who had had previous experience with Siloxirane between 1993 and 1996. He said that he had been interested in the potential of this coating but, after arranging for trials of it in ballast and cargo tanks of four different tankers, it was found not to be suitable for coating of ships tanks, either cargo tanks or ballast tanks. He had also been involved in the tests which had been performed by STS when APS had supplied steel panels, already fully coated by them with Siloxirane, for the immersion tests in various common chemical cargos. He confirmed that Siloxirane had failed the tests in respect of Acetic Acid, Acrylonitrile, Methyl Chloride and Methanol.

26. Mr Strom also said that he had been involved in other tests with Siloxirane which had also failed, and particularly that Siloxirane coating was found to be very brittle and with elongation properties no better than most epoxy coatings, contrary to the literature provided by APS.

27. A statement by Dr. George Mills was also served by the Owners. He had been retained as an expert witness in another arbitration concerning Siloxirane and had carried out extensive testing of the coating. The main point made by him was that the

temperature at which the curing of the Siloxirane was carried out was critical and errors of a few degrees could make a significant difference to the quality of the final coating. He remarked that oven curing was the best method of ensuring proper temperature control but that this could not be achieved with a ship.

28. The Owners also claimed breach of implied terms of the Agreement that Siloxirane would be of the same type and standard as that advertised by them, would be resistant to cargos listed in the APS cargo resistance guide, it would be reasonably fit for carriage of corrosive and toxic cargos under IMO rules and that APS and SEC would exercise all reasonable care in performing their duties under the Agreement.

Respondents' Submissions

29. Points of defence were submitted by APS but SEC ignored the proceedings throughout, despite being invited to make submissions and being copied in for all correspondence.

30. The main thrust of the defence submitted by APS was that none of the work had been carried out under the Agreement dated 28th July 1997 because the Agreement required SEC to apply the coating at their own premises and the vessel was never delivered to them for this work to be performed. Instead, said APS, a second Oral Agreement was made under which responsibility for the preparation and the coating of the tanks with Siloxirane was transferred to the Owners, APS being responsible only for the supply of Siloxirane and for final heat curing. The Oral Agreement provided that each party assumed responsibility for their own financial risks in the event that the coating would fail.

31. APS agreed that the coating had failed. They accepted that the fibreglass lining at the bottom of the tanks had absorbed oil during the carriage of cargoes prior to the final sulphuric acid cargo and that this had been responsible for the contamination which had occurred. They recommended replacement of the fibreglass lining at the bottom of the tanks which would also have involved renewal of large parts of the coating.

32. APS also claimed that the test tanks built by SEC and subjected to the Shore Tests had passed all the tests and as a consequence they had obtained certification and approval for Siloxirane to be used in tankers carrying acid cargoes. In support of this they submitted a small article published in the magazine "Shipping World & Shipbuilder" in July/August 2001 in which it was said that a Latvian ship had performed in chemical service since 1994 with tanks lined with Siloxirane. This, they said, showed that Siloxirane coating itself was entirely satisfactory for the purpose for which it was intended and they implied that failure of the coatings in "JORAN" was the fault of the Owners due to the poor workmanship of their contractors.

Conclusions

33. I published an Interim Award on 15th July 2002 in which I found that I had jurisdiction to act as arbitrator for all disputes arising out of the Agreement dated 28th July 1997. I found that the work carried out by the Respondents when coating the tanks of the "JORAN" was done pursuant to the terms of the Agreement and that the Agreement remained in force.

34. There was no dispute that the coating had failed. Survey of the cargo tanks was carried out by Dr. Ricardo Cosulich on the 3rd February 1999 and he reported to APS that the coating had become damaged in way of the fibreglass. A joint survey was held on the 12th February at which Mr Daniel Decker, who I understood to have represented APS, and Messrs Attilio Ieroli, Michele Isolde and Dr. Cosulich representing the Owners, had confirmed these findings. Finally, the surveyor appointed by the Court at Genoa, Ing. Carmelo Vaccara, inspected the tanks on the 14th April and reported the same problems.

35. I considered that the failure of the coating might have been due to inadequacy of the Siloxirane coating, to inadequate preparation of the surfaces of the steel tanks, to improper or inadequate application of the coating to the surfaces in the tanks, to inadequate curing of the coating, to damage done during the heat curing of the coating or to problems associated with the fibreglass lining. Certainly, major faults had been found in the area of the fibreglass but some problems had also been experienced earlier with pin-holes and cracks in the coating in the upper reaches of the tanks which had needed repair before the vessel went into service. Ing. Vaccara's report referred to the paint being "easily detachable" and "friable, not very adherent" although it was not clear whether this was a reference to paint at the top or the bottom of the tank. Accordingly the problem could have been caused by any one of the above failings or by a combination of several or all of them.

36. All the above possible causes were the responsibility of either APS or SEC. Although the surface preparation was to be carried out by contractors appointed by the Owners, at the Owners' expense, supervision of their work was the responsibility of SEC. If the surface preparation had been inadequate it was their responsibility to insist that it be done again or that different contractors be employed.

37. Similarly, APS were responsible for the supervision of the application of the coating and the fibreglass and for heat curing of the coating. Much of this work was carried out by another contractor but always under the supervision of APS. Indeed, one of the complaints by APS was that, due to the slow progress of the coating by the contractor, their supervisor had been kept on the ship for much longer than they had anticipated, resulting in increased costs to themselves.

38. The Addendum of the same date as the original Agreement provided for the coating material to be supplied to the ship at the Termoli Shipyard via SEC. It was therefore always clear that the work was to be carried out at the Termoli Shipyard. Accordingly I concluded that APS were wrong to say that the Owners were in breach of the Agreement in failing to deliver the vessel to the SEC yard.

39. There was evidence to suggest that Siloxirane was not suitable for various cargoes but, from the sales literature from APS with which I was provided, there appeared to have been several variations of this product, each identified by a different suffix number and some with different temperature requirements for curing. It is possible that one of the other variations might have been successful but no submissions

on this matter were made to me by APS. The fact that DNV required the Shore Tests to be carried out before they would issue even a provisional certificate for toxic cargoes was a clear indication that they, at least, had not previously witnessed satisfactory testing of Siloxirane.

40. I was not very impressed with the very short article in "Shipping World & Shipbuilder." Although approval of the coating was said to have been obtained, it was not stated under which controlling organisation the Latvian vessel had been upgraded to be an acid carrier. I would have preferred to have been provided with a Certificate of Class or a report from an equivalent independent body as evidence of this success. Accordingly I viewed this short magazine article with considerable reserve.

41. Opposing the evidence of the article in "Shipping World & Shipbuilder" were the reports of STS, Mr Per Strom and Dr. George Mills, all of which indicated that Siloxirane was inadequate for the intended service. I did not receive a copy of the report which should have been made on the results of the Shore Tests carried out by Dr. Cosulich's firm concurrently with the work on "JORAN", although Mr Pesce remarked that these tests had found that the coating failed when tested with formic acid. This was disputed by APS. Accordingly I could not rely on the Shore Tests in reaching my conclusion.

42. Although on the evidence available concerning the failure of the "JORAN" coating I could not rule out any of the possible causes of failure, I concluded, on the balance of probabilities, that the most likely cause of the failure of these coatings in a period of no more than a few months was the unsuitability of Siloxirane for the purpose

for which it was intended, that is, it was incapable of resisting the corrosive attack of the cargo of sulphuric acid. Accordingly I found that the Claimants succeeded on the question of liability for damages arising from the failure of that coating.

43. I noted that Mr. Pesce, who had been responsible on behalf of the Owners for the work carried out on "JORAN", had subsequently been employed by SEC. I recognised that this might have involved a conflict of interest but I found his statement to be fully supported by independent documentation in those areas relevant to the coating failure and accordingly I had no hesitation in accepting those relevant areas.

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

**1 WHITES ROW,
LONDON E1 7NF**

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
At: Denise Kechan
Fax No. 001 440 937 5046

26th February, 2004

And:- Cantiere Navale Sec.
Fax No. 0039 0584 39 31 69

c.c. Lloyd & Co.
At: Michael Lloyd
Fax No. 7628 7661

Subject :- m.v. "JORAN"
Tank coating agreement dated 28th July, 1997

I refer to the previous proceedings in this matter which culminated in an Award on Liability which I published on 4th February, 2003. I trust you will by now have received a letter from Michael Lloyd & Co. dated 20th February in which they ask for an Award on Quantum on behalf of Jilmar Shipping S.A.

It is customary in London arbitration that a Respondent is allowed 28 days to respond to such an application and I propose to make such an Order in the present case, unless I receive an objection from you giving good reason why you cannot comply with this time table.

Please note that, unless I hear from you by 8th March, 2004, giving me good reason why you cannot comply, I order that you must serve any submissions which you wish to make in defence of the Claimants' application by Monday, 29th March, 2004.

I look forward to hearing from you within this time frame.

Yours faithfully,

George Lugg

01-APR-04 15:07 FROM: CASBOURNE LEACH

ID: 02073752555

PAGE 1

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E14 7NF**FACSIMILE**

Email: lugg@casebourne-leach.co.uk

To: Advanced Polymer Sciences Ltd
 And: Guaranteed Advanced Tank Technology Ltd.
 At: Dennis Keelham
 Fax No: 001 440 937 5046

1st April, 2004

And: Cantiers Navale Sec.
 Fax No: 0039 0584 39 31 69

And: Lloyd & Co.
 At: Michael Lloyd
 Fax No: 7628 7661

Subject: m.v. "JORAN"
 Tank coating agreement dated 28th July, 1997

Following my letters and faxes to the Parties dated 20th February, I have heard nothing from the Respondents. Accordingly, unless I hear from the Respondents within the next seven days, that is by 8th April, 2004, that they wish to make submissions to me, I will proceed to my award.

In the mean time, may I request clarification from the Claimants on two points. Firstly, Mr. Pesce says that the eventual Buyers, Bollana, agreed to reimburse him for the cost of fuel and cash on board. If this forms part of the claim can the Claimants confirm that the amounts referred to were included as part of the payments set out on page 11 of the documents attached to Mr. Pesce's statement and, if so, do they have any documents supporting those amounts. Secondly, do they have any documents to support the costs of converting the ship as set out in Sr. Pesce's memorandum at page 31.

With best regards,

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

**1 WHITES ROW,
LONDON E1 7NF**

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Lloyd & Co.
At: Michael Lloyd
Fax No. 7248 3339

And:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
At: Denise Keehan
Fax No. 001 440 937 5046

28th June, 2004

And:- Cantieri Navale Sec.
Fax No. 0039 0584 39 31 69

Subject :- m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

I refer to my fax of 1st April, 2004. I have still had no response to either my fax or to my letters of 26th February, sent to both Respondents by recorded delivery. Accordingly I am satisfied that neither Respondent wishes to make any submissions to me on quantum.

I also refer to the fax from Michael Lloyd & Co. dated 20th April concerning documents evidencing their Clients Claim. Can I please hear from them as to whether they will be able produce any such documents.

With best regards,

George Lugg

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
Attn: Denise Keehan
Fax No. 001 440 937 5046

13th September, 2004

And:- Cantieri Navale Sec.
Fax No. 0039-0583 29 76 71

c.c. Lloyd & Co.
Attn: Michael Lloyd
Fax No. 7628 7661

Subject:- m.v. "JORAN"
Tank coating agreement dated 28th July, 1997

I refer to recent correspondence and understand that Dr. Dol Prete is dealing with this matter on behalf of SEC. I have been requested to send copies of all correspondence since 1st August to him at his new fax address and accordingly three pages of such correspondence are forwarded, to him only, with this fax.

The recent correspondence indicates that I have queried one point in the Claimants' original Points of Claim dated 18th December, 2000. The Claimants' response is contained in their fax of 7th September.

I NOW ORDER that the Respondents reply within the next 14 days, that is by close of business in London on 27th September, with any comments which they wish to make on this last exchange or on any other matter regarding quantum. If I do not hear from either of the Respondents within this time I will proceed to determine my Final Award on Quantum and will publish it without further reference to either Party.

With best regards,

George Lugg

GEORGE LUGG

020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Advanced Polymer Sciences Ltd.
And:- Guaranteed Advanced Tank Technology Ltd.
Att. Denise Keehan
Fax No. 001 440 937 5046

30th September, 2004

And:- Cantiere Navale Sec.
Fax No. 0039 0583 29 76 71

c.c. Lloyd & Co.
Att. Michael Lloyd
Fax No. 7628 7661

Subject:- m.v. "JORAN"
Tank coating agreement dated 28th July, 1997

I refer to my ORDER contained in my fax of 13th September. I have received no comments from either of the Respondents.

Accordingly I now confirm that submissions on quantum are closed. I will proceed to draw up my Final Award on Quantum without further reference to either Party.

With best regards,

George Lugg

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF**FACSIMILE**

Email : lugg@casebourne-leach.co.uk

To:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
Att: Denise Kechan
Fax No. 001 440 937 5046

19th October, 2005

And:- Cantieri Navale Sec.
Fax No. 0039 0583 29 76 71

c.c. Lloyd & Co.
Att: Michael Lloyd
Fax No. 7628 7661

Subject :- m.v. "JORAN"
Tank coating agreement dated 28th July, 1997

I refer to the letter from Michael Lloyd & Co dated 23rd August, enclosing further documentation associated with this matter, which was also forwarded to Advanced Polymer Sciences and Cantieri Navale Sec. I have received no response from either of these Parties.

I am now ready to start compiling my Final Award covering the quantum of the Owners' claim. If either of the respondents wishes to make any submissions to me concerning these latest documents will they please let me know urgently.

If I do not hear from either Respondent within 7 days, that is by 26th October, that they wish to comment on the latest documentation I will proceed to my Award on the basis of the documents in my possession now.

With best regards,

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF

FACSIMILE

Email : lugg@casebourne-leach.co.uk

To:- Advanced Polymer Sciences Ltd
And:- Guaranteed Advanced Tank Technology Ltd.
Att: Denise Keehan
Fax No. 001 440 937 5046

1st November, 2005

And:- Cantiere Navale Sec.
Fax No. 0039 0583 29 76 71

c.c. Lloyd & Co.
Att: Michael Lloyd
Fax No. 7628 7661

Subject :- m.v. "JORAN"
Tank coating agreement dated 28th July, 1997

Further to my fax of 19th October, I have had no response from either of the Respondents and I conclude that, as before, they do not want to make any submissions to me regarding the quantum of the claim. Submissions are therefore now closed.

I will now proceed to my award on Quantum and will publish it as soon as it is ready.

With best regards,

John M. Manos Co., LPA
19 East 140th Street Cleveland, Ohio 44110
Tel: (216) 681-1818 Fax: (216) 681-1810
e-mail: jmmanos@aol.com



Attorney at Law
John M. Manos

June 28, 2004

Mr. George Lugg
1 Whites Row
London, England E1 7NF

Via Facsimile: 020 7375 2595

Re: my "JORAN"
Tank Coating Agreement dated July 28, 1997

Dear Mr. Lugg:

I have not responded to any of the transmittals sent by you or Michael Lloyd because I have no clients to represent in this matter. Advanced Polymer Sciences, Inc. was placed into judicial receivership in December 2002 in the Court of Common Pleas, Lorain County, Ohio, Case No. 02-CV-133448. On February 1, 2004, the Honorable Judge Glavas approved the sale liquidating all of the assets of the corporation for the benefit of its secured creditor.

I do not communicate with you in a representative capacity. This is a personal communication made as a professional courtesy. This will be my last communication.

Very truly yours,

John M. Manos

JMM/ck

cc: ✓ Michael Lloyd - Via Facsimile

(31.10.97) is for unit
S.L. & C.

GEORGE LUGG

TEL: 020 7375 2575

FAX: 020 7375 2595



L.M.A.A.

1 WHITES ROW,
LONDON E1 7NF**FACSIMILE**

Email: lugg@casebourne-leach.co.uk

To: John M. Manos Co, LPA
Att: John M. Manos, Esq.
Fax No: 001 216 681 1810

1st July, 2004

c.c: Michael Lloyd & Co.
Att: Michael Lloyd
Fax No: 7628 7661

Subject: m.v. "JORAN"
Tank Coating Agreement dated 28th July 1997

This is to thank Mr. Manos for his fax advising me that APS no longer exists.

I assume from the fact that you responded so quickly to my own fax of 28th June that you are receiving all communications addressed to APS. I note that you do not intend to communicate with me in respect of this case any more.

I await a response from Michael Lloyd & Co. as to how he intends to proceed.

With best regards,

IN THE MATTER OF THE ARBITRATION ACT 1996

AND

IN THE MATTER OF AN ARBITRATION

BETWEEN

JILMAR SHIPPING SA

Claimants

- AND -

- (1) GUARANTEED ADVANCED TANK TECHNOLOGY LTD.
- (2) ADVANCED POLYMER SCIENCES INC.
- (3) CANTIERE NAVALE SEC

Respondents

m.v. "JORAN"

Tank Coating Agreement Dated 28th July 1997

FINAL ARBITRATION AWARD ON QUANTUM

WHEREAS:

1. By the terms of an Agreement dated 28th July 1997 with an Addendum, between Guaranteed Advanced Tank Technology Ltd ("GATT"), Advanced Polymer Sciences Inc ("APS"), Cantiere Navale Sec ("SEC") (hereinafter referred to as "the Contractors") and Marnavi SpA acting on behalf of the Claimants (hereinafter referred to as "the Owners"), GATT, APS and SEC agreed to supply and install or alternatively supervise the installation of, a high performance tank coating system for application to the cargo tanks of the m.v "JORAN".

2. Paragraph H of the said Agreement provided that it should be construed in accordance with the laws of England. Paragraph I of the Agreement provided that any disputes arising between the parties to the Agreement which could not be amicably settled should be referred to arbitration in London.

3. Disputes did arise between the parties as hereinafter particularised. The Owners appointed me, George Lugg, of 1 Whites Row, London E1 7NF to act as an arbitrator. Notice of my appointment was given to each of the Contractors but they failed to appoint arbitrators in response or to agree to my appointment as sole arbitrator. The Owners then applied to the High Court in England to appoint an arbitrator to resolve all disputes arising from the Agreement. By an order dated 15th June 2001 made by Mr. Justice Langley, sitting in the Commercial Court of the Queen's Bench Division of the English High Court of Justice, I was appointed as sole arbitrator in the arbitration between the parties. The seat of the arbitration is England.

4. Following my appointment by the Court, the Owners served Points of Claim on the Contractors. Both APS and the Owners requested that I make an Interim Award as to whether or not I had jurisdiction to arbitrate in these disputes. I made an Interim Award which I published on 15th July, 2002 in which I found that I did have jurisdiction to arbitrate in respect of the disputes arising out of the coating by the Contractors of the tanks of the "JORAN" with Siloxirane Marine Line Coating (hereinafter referred to as "Siloxirane"), a patented coating supplied by APS.

5. Following publication of my Interim Award on my jurisdiction the Owners asked me to consider the matter of the liability of the Contractors for the alleged failure of the tank coating system. The Points of Claim alleged that the coating which the Contractors had supplied and installed in Nos 1 to 20 cargo tanks of the vessel was unable to achieve the resistance to corrosive and toxic cargoes which the Contractors had claimed.

6. None of the Contractors made any further submissions to me, other than those which they had made to assist me with my Interim Award. The Attorney who had been instructed by APS advised me that his instructions had been withdrawn and that APS would not be making any further submissions. Despite my invitations to SEC to take part in the reference, I received no correspondence or submissions from them at any time.

7. I published a further Interim Final Award on 4th February, 2003 in which I found that the coating supplied and installed in the cargo tanks of the vessel by the Contractors was unable to withstand attack from some of the chemicals to which it was said by the Contractors to be resistant.

8. Following publication of my Interim Final Award I was requested by the Owners to deal with the quantum of their claim. This they had pleaded as follows:-

Loss of value under the terms of an M.o.A for the sale of the vessel dated 11th December, 1997, amounting to US\$3,000,000.00.

Damages equivalent to the cost of repairs to the coating at the bottom of the cargo tanks amounting to Lit.481,448,980.

Damages equivalent to the loss of the hire of the vessel under her applicable charterparty for the time taken to carry out the above repairs, amounting to D.M.331,999.98 plus US\$55,333.33.

Damages amounting to US\$3,700,000.00 for the cost of the conversion and recoating of the cargo tanks which had been carried out with a view to enabling the vessel to carry toxic and corrosive cargoes, which she would have been able to carry if the representations made by the Contractors had been true. The Owners claimed that these costs had been wasted due to the failure of the coating to perform as promised by the Respondents.

Alternatively, damages equal to the diminution in value of the vessel because of her inability to carry the cargoes which the Contractors had represented that she would be able to carry with tanks coated with Siloxirane.

Alternatively, damages equal to the diminution in the value of the vessel, lacking as she did any effective coating at all on completion of the works.

9. None of the Contractors made any submissions to me on quantum, despite my invitations to them to do so. I received a communication from the Attorney who had previously represented APS and GATT, who informed me that APS had ceased to trade and had been declared bankrupt by the Court in Ohio, U.S.A.

10. The reference proceeded on documents alone. The Claimants asked for a Reasoned Award and my reasons are attached to and form part of this Award.

NOW I, the undersigned George Lugg, having taken upon myself the burden of this reference, having considered the written evidence put before me and the submissions made to me, DO HEREBY MAKE, ISSUE AND PUBLISH this my FINAL AWARD ON QUANTUM as follows:

A. I FIND AND HOLD that the Claimants' claims succeed in the following sums and no more:-

In respect of the costs of conversion of the vessel to carry corrosive and toxic cargoes, US\$1,800,630.00 plus US\$892,556.00.

In respect of the costs of subsequent repairs following failure of the Siloxirane coating, also survey fees and agency expenses, Lit.144,973,670.

In respect of loss of hire whilst the above repairs were being carried out to the coating, D.M.331,999.98 plus US\$55,333.33

B. I ACCORDINGLY AWARD AND DIRECT that the Contractors shall be jointly and severally liable to pay the Claimants the sums of US\$2,748,519.33 plus Lit.144,973,670 plus D.M.331,999.98, together with interest thereon at the following rates:-

i) On the sum of US\$1,800,630.00 at the rate of 6.1% per annum, from 15th April, 1998,

(ii) On the sum of US\$892,556.00 at the rate of 5.9% per annum, from 12th November, 1998 and

(iii) On the sums of US\$55,333.33, Lit.144,973,670 and D.M.331,999.98 at the rate of 5.7% per annum from 10th July, 1999,

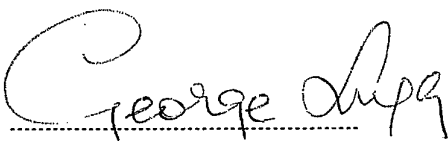
all three rates of interest compounded at three monthly intervals from the relevant date until the date of payment under this Award.

C. I FURTHER AWARD AND DIRECT that the Contractors shall be jointly and severally liable to bear their own and the Owners' costs of the reference, together with interest thereon at the rate of 6½% per annum, compounded at three monthly intervals from the date of this Award until the date of payment.

D. I FURTHER AWARD AND DIRECT that the Contractors shall be jointly and severally liable to pay the cost of this my FINAL AWARD ON QUANTUM which I hereby assess in the sum of U.K.£7,500.00, PROVIDED THAT if, in the first instance the Owners shall have paid any part of the said costs they shall be entitled to immediate reimbursement by the Contractors of the sum so paid, together with interest thereon at the rate of 6½% per annum, compounded at three monthly intervals, from the date of payment until the date of reimbursement.

E. I DECLARE that this Award is final as to the matters dealt with herein but I RESERVE TO MYSELF jurisdiction to deal with any other matters which may arise, including the assessment of costs, upon receipt of further submissions.

Given under my hand this 11th day of November, 2005



George Lugg



Witness

m.v. "JORAN"

Tank Coating Agreement dated 28th July, 1997

Reasons For and Forming Part of the Arbitrator's Final Award on Quantum

1. By my first Award dated 15th July 2002 I found that I had jurisdiction to act as Arbitrator for all disputes arising out of the contract between the parties dated 28th July 1997 for the coating of the cargo tanks of this vessel. By my second Award dated 4th February 2003 I found that the work involved in coating of the cargo tanks in 1997 and 1998 was carried out pursuant to that contract and that the subsequent failure of the coating was, on the balance of probabilities, due to the inadequacy of the coating itself. I made no Award as to Quantum in either of my earlier Awards and have now been requested by the Claimants to deal with this matter.
2. The vessel was owned by Jilmar Shipping S.A. of Panama, R.P. [hereinafter referred to as "Jilmar"]. The vessel had been purchased by Jilmar in March 1996 and had originally been entrusted to Black Sea Shipyard at Constanza, Romania for general maintenance work but was subsequently transferred to Cantieri Navali SEC at Termoli in Italy in April, 1997 because the repairs in Romania were progressing very slowly. She had moved to Termoli by the time the decision was made to convert the vessel so as to enable her to carry corrosive and toxic cargoes. Resistance of the structure of the vessel to corrosion by the cargoes to be carried was intended to be achieved by coating the cargo tanks with a type of coating known as Siloxirane Marine Line Coating [hereinafter "Siloxirane"] which was to be supplied by the second Respondents, Advanced Polymer Sciences Inc. of Avon, Ohio, U.S.A. [hereinafter "APS"].
3. Whilst the conversion of the vessel and the coating work was still being performed Jilmar sold the vessel to Eoliana Gestao e Navegacao of Madeira [hereinafter "Eoliana"] under a Memorandum of Agreement on a Norwegian Saleform dated 11th December 1997. This Memorandum provided for the vessel to be delivered to Eoliana between 15th and 30th December, 1997 with a cancelling date of 30th January, 1998. Conversion work continued after delivery and was completed in October, 1998. The vessel then returned to service and soon thereafter started to carry corrosive cargoes.

Submissions

4. Jilmar set out the quantum of their claim in Paragraph 12 of their original Points of Claim dated 18th December 2000. The sums claimed were as follows:

- (a) Loss of sale value of the vessel amounting to \$3,000,000.00 arising from the terms of the sale of the vessel. Jilmar had sold the vessel to Eoliana for a price of \$5,800,000.00 but Addendum № 1 to the sale contract recorded that, if the vessel failed to achieve certification for the carriage of corrosive and toxic cargoes as permitted by the Rules of the International Maritime Organisation [hereinafter "I.M.O."], then US \$3,000,000.00 of the sale price should be forfeited and refunded to the Buyers.
- (b) The costs incurred by Eoliana in 1999, following failure of the coating in service, for repairing the defective coating and the protective fibreglass lining at the bottoms of the cargo tanks. Sr. Pesce said in his second statement that the paint coating was actually renewed at that time, see paragraph 8 below. The cost of this work, including tank cleaning, gas freeing, port costs and survey fees, amounted to Italian Lire (Lit.) 481,448,980.
- (c) Loss of earnings during the period of 55 days and 8 hours during which the recoating work claimed above was carried out. The vessel had been chartered by Eoliana back to Marnavi on a three year Charterparty dated 7th October 1998, Addendum № 1 of which set out rates of hire of D.M.6,000.00 per day plus U.S. \$1,000.00 per day. These figures were used to compute the total loss of earnings which amounted to D.M. 331,999.98 plus U.S. \$55,333.33.
- (d) Damages equal to the cost of carrying out remedial works on the vessel to enable her to carry corrosive and toxic cargoes as if the vessel had been fitted with stainless steel tanks. This item was subsequently dropped by Jilmar and replaced by a claim set out in their subsequent submissions dated 20th February, 2004. In these submissions Jilmar claimed damages amounting to US\$3,700,000.00 which

they said had been the cost of carrying out the conversion of the vessel to carry toxic and corrosive cargoes, and which was thrown away as a result of the Siloxirane coating not having the properties attributed to it by APS.

5. Jilmar also made two alternative claims for diminution in value as follows:

- (e) Damages equivalent to diminution in value of the vessel because of her inability to carry the cargo range which had been promised by the Respondents.
- (f) Damages equivalent to the diminution in value of the vessel in view of the ineffective condition of the tank coating on completion of the alterations.

6. The original Points of Claim had been dated 18th December 2000. APS had submitted their Points of Defence on 2nd October 2001 in which they strenuously disputed liability for any losses sustained by Jilmar. I dealt with their defence as to liability in my earlier Awards and will not repeat my comments here. APS made no submissions as to quantum in their defence and failed to make any further submissions when they were advised that Jilmar were pursuing their claim as to quantum. The third Respondents, Cantieri Navali SEC (hereinafter "SEC") made no submissions at any time, despite having been copied in on all correspondence and despite receiving copies of my earlier Awards.

7. Jilmar made further short submissions on quantum in their letter of 20th February 2004 in which they amended their claim as described in Paragraph 4(d) above. They also submitted a second statement by Sr. Pesce who had been Technical Director of Marnavi S.p.A, Jilmar's Technical Managers, at the time that the work was carried out. Sr. Pesce stated that various payments had been made by Eoliana to Jilmar towards the purchase price of the vessel, followed by a series of reimbursements by Jilmar to Eoliana, over the period from 23rd January 1998 to the 22nd December 2000. These had resulted in a net payment to Jilmar of U.S. \$2,827,974.65 for a vessel for which the original agreed price had been \$5,800,000.00. After making allowance for bunkers remaining on board on delivery of the vessel to Eoliana, plus a sum of cash which had also be on board at the time of delivery, Jilmar had received a net sum slightly less than \$2,800,000.00 for the ship, a reduction in the originally-agreed price of slightly over \$3,000,000.00.

8. Sr. Pesce also stated that Jilmar had been pressed by Eoliana to pay for repair work to the coatings of the cargo tanks which were found to be seriously defective in February 1999 after the vessel had carried a few aggressive cargoes. I dealt with this matter in my second Award dated 4th February, 2003 and found that the coating of the cargo tanks had failed due to the inability of Siloxirane to resist certain corrosive cargoes. Sr. Pesce had dealt with this in his second statement at paragraph 9 where he said that a complete new paint system had to be applied. This work, he said, was carried out at La Spezia and Genoa in March, April and May, 1999 and had been completed at Genoa in March and April, 2000.

9. Following receipt of Jilmar's submissions on quantum I invited APS and SEC to comment on them. This invitation was sent by Recorded Delivery Mail dispatched on 26th February 2004 and by fax on the same date. I received confirmation by Royal Mail in the United Kingdom that the letter had been delivered to APS in Avon, Ohio on the 3rd March 2004. My letter to SEC was not returned to me by Royal Mail [as I would have expected if it could not have been delivered] and I concluded that it had indeed been successfully delivered.

10. On the 1st April, 2004 I again invited both APS and SEC by fax to let me know whether they wished to make any submissions on Quantum. I gave them 7 days in which to reply to me but again received no replies. By the same fax I invited Jilmar to supply further supporting documentary evidence of the Quantum of their claim. On the 28th June I again tried to contact both APS and SEC by fax but again I received no response. However, I received a response the same day from Mr John M. Manos, the Attorney who had previously handled the matter on behalf of APS, advising me that APS had been declared bankrupt by the Court in Ohio.

11. On the 9th August 2004 Jilmar provided me with two invoices, both written in the Italian language, the first dated October 1997 and addressed to Jilmar, amounting to Lit. 3,200,000,000 and the second dated October 1998 and addressed to Eoliana, amounting to Lit. 3,600,000,000. Jilmar explained that no invoices were available covering the repairs done in Romania but that the invoices now produced covered the conversion

work carried out at the Termoli shipyard in Italy. The first of those invoices referred to conversion of the vessel to carry IMO class II and III cargoes and the second referred to various modifications carried out and other work done on the vessel, also concerned with her upgrading to enable her to carry IMO Class II and III cargoes.

12. I questioned the inclusion in the claim of the invoice addressed to Eoliana and asked for proof of payment having been made by Jilmar. In August, 2005 I was provided with a third statement by Sr. Pesce in which he informed me that, although the work covered by the second invoice had been ordered by Jilmar and carried out by SEC and various sub-contractors, due to cash flow problems experienced by Jilmar, Eoliana had agreed to advance money to Jilmar to cover this invoice pending resolution of this dispute. In the event, said Sr. Pesce, only Lit. 1,603,932,206 was paid in respect of the second invoice, the balance being deducted for damages claimed against the shipyard for delay in the completion of the work. The net sum paid to the yard by Jilmar was therefore Lit. 3,200,000,000, which appears to have been finally settled by 15th March, 1998. The sum paid by Eoliana as a loan to Jilmar was Lit. 1,603,932,206, the final instalment of which was paid on 12th October, 1998.

Discussion

13. Jilmar argued that the Respondents had made a negligent representation as to the properties of Siloxirane by saying that the coating was as resistant to corrosive chemicals as was stainless steel. In my earlier Award I found that on the balance of probabilities, the coating did not have the properties claimed for it by APS and had failed in normal service when carrying cargoes to which the Respondents had said it was impervious. Accordingly the representation which the Respondents had made regarding the resistance of the coating to various cargoes had been wrong and had been negligently made. Jilmar drew my attention to passages in Chitty on "Contracts" which dealt with both fraudulent and negligent misrepresentation and the interpretation of the Misrepresentation Act of 1967. Having studied the passages to which my attention had been drawn, I concluded that the measure of damages to be awarded in cases of either fraudulent and negligent misrepresentation were the same and were covered by section 2 (1) of the Misrepresentation Act. I concluded that the Claimants were entitled to be placed in the position in which they would have been if they had not been persuaded to recoat their

vessel with Siloxirane as a major part of a conversion to enable it to carry corrosive and toxic cargoes.

14. Jilmar had bought the vessel in 1996 intending to trade her in the carriage of normal cargoes, including edible oils. For this she needed a refit and recoating of cargo tanks with a coating suitable for the carriage of edible oils. During the course of the refit they had been persuaded by APS that Siloxirane, produced by them, was of a quality that would permit the vessel to carry corrosive and toxic cargoes. Jilmar concluded that if this could be achieved it would substantially increase the value of the vessel and permit her to operate in a more lucrative trade. Accordingly they decided to coat the vessel with Siloxirane and carry out extensive alterations to the hull, machinery and equipment in order to achieve this aim.

15. Once Jilmar had decided to change the service of the vessel from normal cargoes to hazardous cargoes it was to be expected that IMO would apply their most recent Rules & Regulations to the construction and outfitting of the vessel. It is normal practice in my experience for IMO to do this where a ship undergoes what they would consider to be a major alteration. IMO required the location of the accommodation superstructure to be adjusted to ensure that it did not extend above any of the cargo tanks, also major alterations were required to the cargo handling system, tank ventilation system, fire fighting and other emergency systems etc. If the representations made by the Respondents had never been made, none of this would have been necessary to enable the vessel to carry normal cargoes including edible oils. However, the cleaning and de-scaling of the cargo tanks and the coating of them with a coating suitable for the carriage of normal cargoes would have been necessary, even if there had been no modifications.

16. Whilst the coating work was continuing Jilmar had agreed to sell the vessel to Eoliana for an agreed price of \$5,800,000.00 but, by Addendum № 1 to the MOA, it was further agreed as follows:

- *The Buyers have purchased the vessel "Joran" only under the condition that upon completion of conversion works at Canlieri Navali Termoli S.r.l. the above vessel is qualified for the carriage of the corrosive and toxic goods under IMO rules so*

that to obtain the permanent approval for carrying corrosive and toxic goods as Phosphoric Acid, Sulphuric Acid, Formic Acid, Phenol and so on;

All that premised, the parties agreed the following:

.....

2) should the vessel "Joran" upon completion of works actually being carried at Cantieri Navali Termoli is not qualified (now or subsequent) because of defective materials, poor workmanship or otherwise howsoever for the carriage of the said acid and toxic goods, and should the Class Register does not issue a "clean" certificate of Fitness for all the corrosive and toxic acids under IMO rules, then the contractual price will be deemed of US\$ 2'800'000. - (two million eight hundred thousand US Dollars) and the Sellers will return back to the Buyers the amount of US\$ 3'000'000. - (three million US Dollars) and will pay the damages suffered by the Buyers in connection with.

17. This is an indication that the value of the vessel, if capable of carrying toxic and corrosive cargoes, would be \$3,000,000.00 higher than it would be if she was capable of carrying only passive cargoes such as edible oils. In the event, Eoliana paid slightly less than 2.8 million for the vessel so I accepted that Jilmar had lost \$3,000,000.00 on the sale of the vessel as a result of the failure of the Siloxirane coating. However, since the value of the vessel would not have been increased if the negligent representation had not been made, and since Jilmar then would not have been able to offer the vessel for sale as a vessel capable of carrying corrosive and toxic cargoes, this loss would never have been sustained. I therefore rejected the claim for loss of value and, for the same reason, the alternative claim for diminution in value due to the inability to carry the promised cargo range.

18. I now turn to consider the claim for the cost of re-coating of the cargo tanks carried out at La Spezia and Genoa in March, April and May, 1999 and in March and April, 2000. Sr. Pesce said in his second statement that this work was all concerned with replacing the Siloxirane coating by another paint system. If the representation had not been made by APS and the vessel had not been converted to carry corrosive cargoes, it

would still have been necessary to recoat the cargo tanks with an alternative coating which would have been similar to the one which was used at La Spezia and Genoa.

19. Eoliana had claimed the cost of this work from Jilmar pursuant to the terms of sub paragraph 2 of Addendum No. 1 of the M.o.A. dated 11th December, 1997, quoted above. They claimed that these costs were damages suffered by them in connection with the failure of the coating as provided in that sub paragraph. Sr. Pesce said in his second statement that he had considered that Jilmar were liable under the M.o.A. for these costs and that Jilmar had reimbursed Eoliana for them. Jilmar claimed them in turn from the Respondents as damages suffered by them due to the negligent representation made by APS concerning the qualities of Siloxirane.

20. However, I concluded that much of this work would have been necessary as part of the initial repair plan which Jilmar had intended to carry out before they were persuaded to embark on the coating of the tanks with Siloxirane and the expensive upgrading of the vessel. Sr. Pesce said in his first statement that the vessel had originally been built with twelve stainless steel cargo tanks with a total capacity of about 790 cu.m. He said that, had the Owners not been persuaded to convert the vessel, these tanks would have been retained. The remaining mild steel cargo tanks would have required blasting and recoating in order to permit the vessel to carry normal cargoes. The Owners would therefore have had to incur the cost of recoating the original mild steel cargo tanks in any event.

21. The final capacity of all cargo tanks, as shown by the tank plan produced by SEC showing the arrangement after the conversion, was about 3,400 cu.m. so about 25% of the original capacity had comprised stainless steel tanks which would not have required recoating. I was not provided with any evidence showing the surface areas of the various cargo tanks, but I concluded that a rough estimate could be made by comparing the volumetric capacities. I accordingly accepted as a valid part of the claim the cost of recoating 25% of the surface area of the cargo tanks but discounted the remaining 75% which would have required recoating in any event.

22. The sum claimed by the Owners for recoating the tanks at La Spezia and Genoa was Lit. 448,633,750. 25% of this amounts to Lit. 112,158,440 and to this must be added survey fees for Dr. Cosulich, Lit. 6,366,500 and agency expenses, Lit. 26,448,730 bringing the total to Lit. 144,973,670. I concluded that this item covered all additional work associated with the recoating of the cargo tanks following failure of the Siloxirane coating and I dismissed, for the same reason, the alternative claim for diminution in value due to the lack of any effective tank coating on completion of the alterations.

23. Jilmar claimed loss of hire for the vessel for 55 days and 8 hours whilst this work was performed. This additional loss of time, over and above the time spent on the upgrading of the vessel, would not have been necessary under normal circumstances. The vessel had undergone thorough overhaul during 1996, 1997 and 1998 and the grit blasting and coating of the tanks would have been done concurrently if the decision to convert the vessel had not been taken.. The vessel had only been back in service for a relatively short period before the re-coating of the cargo tanks was carried out at La Spezia and Genoa. Accordingly I accepted the claim for loss of hire.

24. Finally I consider the claim for the cost of the conversion of the vessel from a standard products tanker to one certified by I.M.O. to be capable of carrying corrosive and toxic cargoes. This had originally been claimed by Jilmar to have cost US\$3,700,000.00 and the claim had been supported by two invoices from Cantieri Navali SEC in Italian Lire. It transpired that, although the first invoice had been paid in full by Jilmar, the second invoice had been only partly paid, the unpaid portion having been retained by Eoliana as compensation for late delivery of the ship by the yard. Late delivery of the vessel by SEC had not been pleaded by Jilmar and no claim had been made for loss of time due to late delivery by SEC. I concluded that the unpaid portion of the second invoice did not form part of the claim against the Contractors.

25. I therefore accepted the claim by Jilmar for the first invoice amounting to Lit.3,200,000,000 in full but I accepted only that part of the second invoice which had actually been paid to the shipyard, Lit.1,603,932,206. No submissions were made to me concerning applicable conversion rates but, in his third statement, Sr. Pesce had used an exchange rate of US\$1.00 = Lit.1,777.16 in respect of the first of the two main invoices and a rate of Lit.1,797.01 in respect of the second. These are in line with exchange rates

published in The Financial Times in February and April, 1999. I accepted them and awarded the Owners the equivalent sums in US Dollars, namely US\$1,800,630.00 and US\$892,556.00.

Summary

26. I rejected the claim for loss of value and the alternative claim for diminution in value of the vessel due to the inability to carry the promised cargo since, had Jilmar not been persuaded to convert the vessel to carry toxic and corrosive cargoes, the modifications intended to permit her to carry such cargoes would not have been performed and the value of the vessel would not have been inflated by 3 million dollars or at all. I also rejected the claim for diminution in value due to the lack of any effective coating on completion of the alterations because, having made due allowance in Paragraph 22 above for the cost of coating the surfaces which replaced the stainless steel tanks, this had been the condition of the remainder of the vessel before the alterations were commenced. Recoating of these tanks would have been necessary in any event.

27. I found that the Respondents were liable to the Claimants for the following items of claim.

- (a) Cost of recoating 25% of the internal cargo tank surfaces with an alternative coating, Lit.112,158,440.
- (b) Cost of agency expenses and survey fees incurred during recoating of the cargo tanks at La Spezia and Genoa following the failure of the Siloxirane coating, Lit.32,815,230.
- (c) Cost of hire for 55 days and 8 hours whilst re-coating of the cargo tanks was being performed, D.M.331,999.98 plus US\$55,333.33
- (d) Invoices paid by Jilmar, and by Eoliana as loans to Jilmar, for modifications to the structure of the vessel and various items of machinery, including cargo handling equipment, emergency equipment etc as stated by Sr. Pesce and supported by invoices and bank statements produced to me, US\$1,800,630.00 plus US\$892,556.00.

I accordingly awarded the Claimants these sums.

28. Some of the minor items of claim had been made in currencies that no longer exist. No submissions were made to me regarding their conversion to either Euros or US

Dollars and I awarded them in the original currencies. Had I been asked to convert them to US Dollars I would have used the appropriate exchange rates published in the Financial Times for 5th July, 1999, namely US\$1.00 = Lit.1,894.68 and D.M.1.9138.

Interest.

29. I awarded interest at 2½% above the applicable US Dollar LIBOR rate because two of the Respondents were US Companies and, no doubt because the US Dollar is the most frequently used currency in merchant shipping business, the bulk of the claim had originally been made in US Dollars. The invoices from Eoliana covering the costs involved in the recoating carried out in 1999 and their claim for "Off Hire" were dated 10th June 1999. The major invoice for conversion work which was paid by Jilmar was finally settled on 15th March, 1998. The invoice for conversion work which was paid by Eoliana as a loan to Jilmar had been finally settled on 12th October, 1998. I awarded interest at the appropriate rate to run from one month after each of the above dates.

Costs

30. The Claimants have been substantially successful in their claims and I see no reason to vary the customary practice that costs should follow the event. Accordingly I find that the Claimants, Jilmar, are entitled to their costs in full.

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Att:- Denise Keehan
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21st November, 2005

And:- Cantiere Navale Sec.
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c.c. Lloyd & Co.
Att Michael Lloyd
Fax No. 7628 7661

Subject:- m.v. "JORAN"
Tank coating agreement dated 28th July, 1997

The Final Arbitration Award on Quantum has been despatched to the Claimants' Solicitors after they paid my fees. A copy of the Award is attached to this fax and hard copies of the Award and the Reasons will be posted to APS tonight.

If Dr. Del Prete will tell me the address to which he would like the Award and Reasons sent I will post them to him as soon as I receive that information.

With best regards,

George Lugg